



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

EPA Region 5 Records Ctr.



201901

REPLY TO THE ATTENTION OF:

MAY 07 1997

SM-5J

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Monsanto Company
Attn: D. Michael Light
800 N. Lindbergh Boulevard
St. Louis, Missouri 63167

Re: Supplemental Request for Information Pursuant to Section
104(e) of CERCLA for the Sauget Areas I and II Pre-National
Priorities List Superfund Sites, in Sauget/Cahokia, Illinois

Dear Mr. Light:

The United States Environmental Protection Agency (U.S. EPA)
received Monsanto's 1994 and 1995 response to U.S. EPA's
Information Request. Based on the Agency's review of this
information, we require supplemental information.

Please respond to the requests for supplemental information in
Enclosure III within 30 days of receipt of this letter.
Instructions and Definitions pertaining to these questions are
provided in Attachments 1 and 2.

Failure to comply by fully, truthfully and immediately
responding to U.S. EPA's information request, or not adequately
justifying such failure to respond, may subject you to enforce-
ment action. U.S. EPA may seek to compel compliance and collect
Penalties of up to twenty-five thousand dollars (\$25,000), per
day of noncompliance pursuant to § 104(e)(5) of CERCLA, 42 U.S.C.
§ 9604(e)(5). U.S. EPA has the authority to use the information
requested herein in an administrative, civil, or criminal action.

Your response to the Information Request should be mailed to:

U.S. Environmental Protection Agency
Attn: Carlton D. Cuffman - SM-5J
77 West Jackson Blvd.
Chicago, IL 60604-3590

If you have any technical questions please refer them to Leah Evison at (312)886-4696, the U.S. EPA Project Manager assigned to the Sauget area sites. If you have any legal questions, please contact Thomas Martin, Associate Regional Counsel, at (312) 886-4273. For other questions regarding this matter, please contact Carlton D. Cuffman at (312) 353-9181.

Sincerely yours,

Thomas C. Marks, Chief
Remedial Enforcement Support Section

Attachments: 1. Instructions
2. Definitions
3. Map of Sauget
4. Information Requests
5. Confidential Business Information
6. Site History
7. Photos

Exhibits (18)

Your response to the Information Request should be mailed to:

U.S. Environmental Protection Agency
Attn: Carlton D. Cuffman
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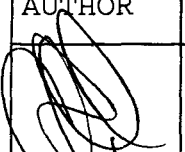
Sincerely yours,

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Attachments: 1. Instructions
2. Definitions
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6. Site History
7. Photos

Exhibits (18)

bcc: Leslie Kirby, CS-29A
Leah Evison, SR-6J
Thomas Martin, CS-29A
Paul Takacs, IEPA (w/Enclosures)

CONCURRENCE REQUESTED					
REMEDIAL ENFORCEMENT SEARCH SEC, SPMB, SFD					
AUTHOR	SEC'TY	SEC CH	BR CH	RPM/WMD	ORC
				LAE	LAE for TM

5/1/97

ATTACHMENT 1

INSTRUCTIONS

1. Answer each question in this Information Request separately.
2. Precede each answer with the number of the question to which it corresponds.
3. Although the U.S. EPA seeks your cooperation in this investigation, CERCLA requires that you respond fully and truthfully to this Information Request. False, fictitious, or fraudulent statements or representations may subject you to civil or criminal penalties under federal law. Section 104 of CERCLA, 42 U.S.C. Section 9604, authorizes the U.S. EPA to pursue penalties for failure to comply with that Section, or for failure to respond adequately to requests for submissions of required information.
4. In answering each question, identify all persons and contributing sources of information.
5. You must supplement your response to U.S. EPA if, after submission of your response, additional information should later become known or available. Should you find anytime after the submission of your response that any portion of the submitted information is false or misrepresents the truth, you must notify U.S. EPA as soon as possible.
6. For any document submitted in response to a question, indicate the number of the questions to which it responds.
7. You must respond to each question based upon all information and documents in your possession or control, or in the possession or control of your current or former employees, agents, contractors, or attorneys. Information must be furnished regardless of whether or not it is based on your personal knowledge, and regardless of the source.

8. Your response must be accompanied by the following statement, or one that is substantially equivalent:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

The individual who prepared the response or the responsible corporate official acting on behalf of the corporation must sign and date the statement, affidavit, or certification. Include the corporate official's full title.

9. If any of the requested documents have been transferred to others or have otherwise been disposed of, identify each document, the person to whom it was transferred, describe the circumstances surrounding the transfer or disposition, and state the date of the transfer or disposition.
10. All requested information must be provided notwithstanding its possible characterization as confidential information or trade secrets.
11. Except when a particular question specifies otherwise, all requested information should be provided relevant to the time period 1950 to 1985.

ATTACHMENT 2

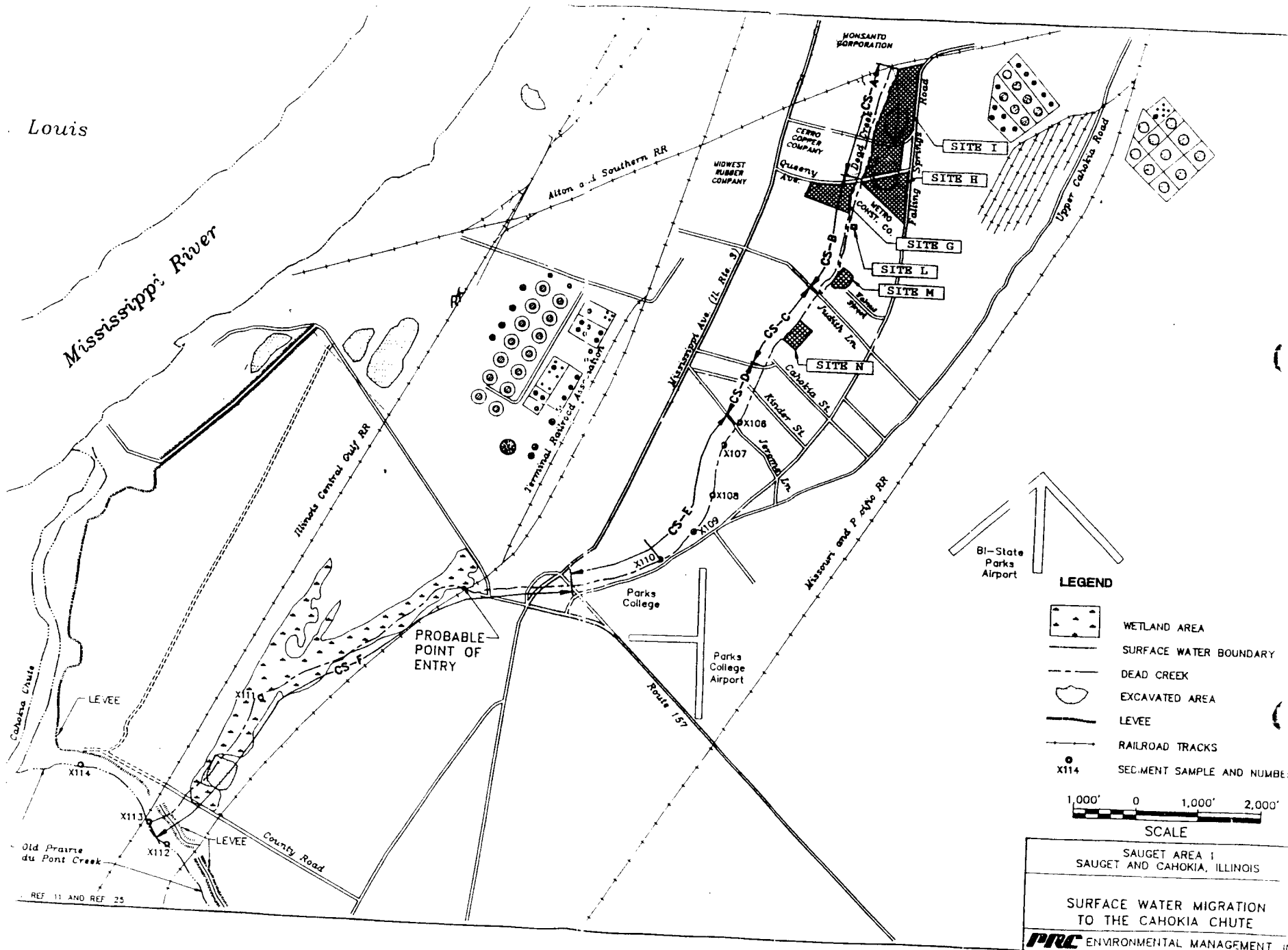
Definitions

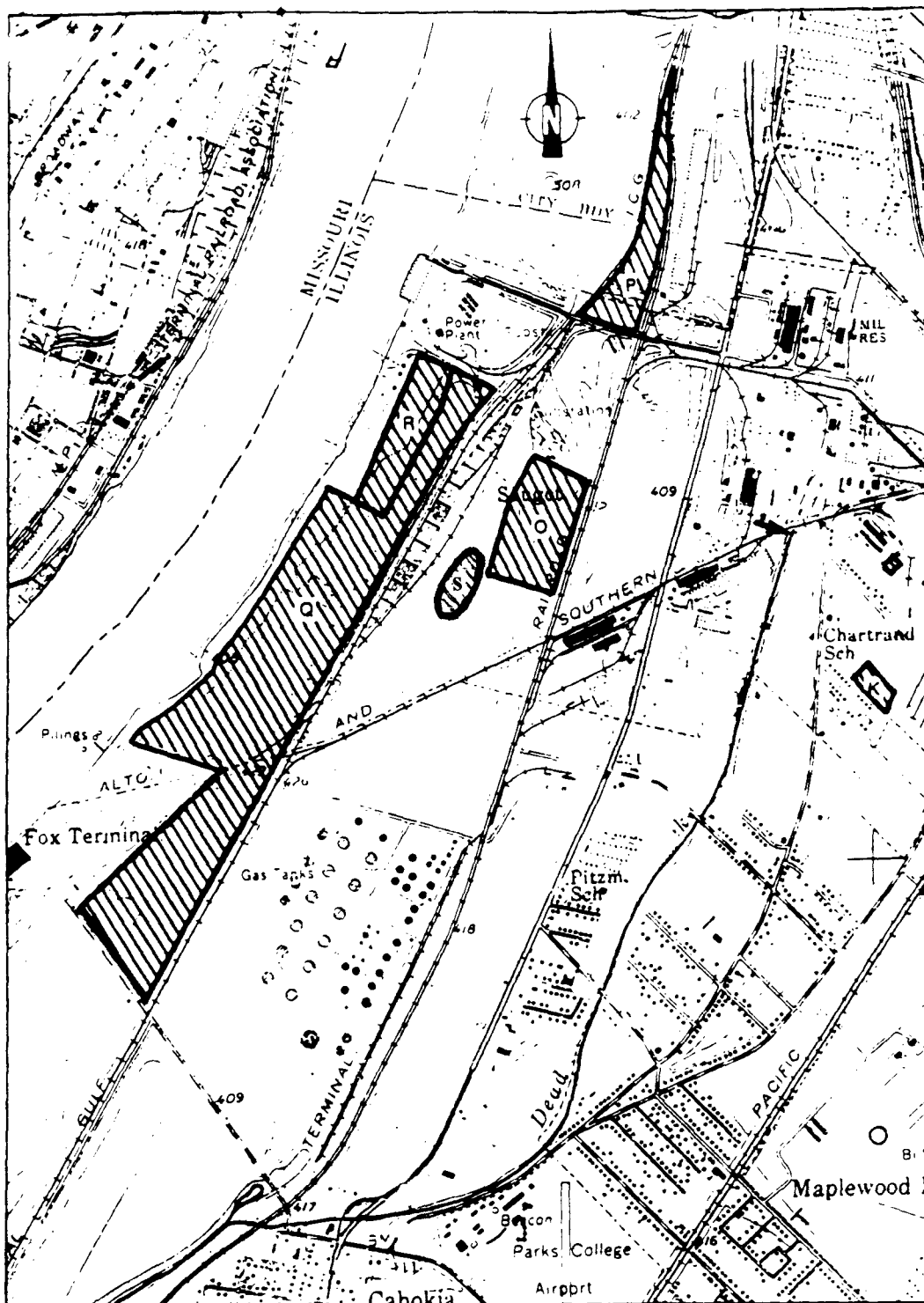
1. As used in this letter, words in the singular also include the plural and words in the masculine gender also include the feminine and vice versa.
2. The term "**person**" as used herein includes, in the plural as well as the singular, any natural person, firm, contractor, unincorporated association, partnership, corporation, trust or governmental entity, unless the context indicates otherwise.
3. "**The Sauget Area Sites**" or "**the sites**" shall mean and include the cross-hatched properties within the boundaries of "Areas 1 and 2," including Dead Creek, located in Sauget and Cahokia, Illinois, as designated in Attachment 3.
4. The term "**waste**" or "**wastes**" shall mean and include trash, garbage, refuse, by-products, solid waste, hazardous waste, hazardous substances, and pollutants or contaminants, whether solid, liquid, or sludge, including, but not limited to container for temporary or permanent holding of such wastes.
5. The term "**identify**" means, with respect to a natural person, to set forth the person's full name, present or last known business address and business telephone number, present or last known home address and home telephone number, and present or last known job title, position or business.
6. The term "**identify**" means, with respect to a corporation, partnership, business trust or other association or business entity (including a sole proprietorship), to set forth its full name, address, legal form (e.g., corporation, partnership, etc.), organization, if any, and a brief description of its business.
7. The terms, "**furnish**", "**describe**", or "**identify**" or "**indicate**", shall mean turning over to U.S. EPA either original or duplicate copies of the requested information in the possession, custody, or control of the Respondent.

Where specific information has not been memorialized in any document but is nonetheless responsive to an information request with a written response. If such requested information is not in your possession, custody, or control then indicate where such information or documents may be obtained.

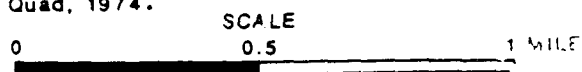
9. The term "**hazardous substance**" shall have the same definition as that contained in Section 101(14) of CERCLA, including any mixtures of such hazardous substances with any other substances, including petroleum products.
10. The term "**hazardous waste**" shall have the same definition as that contained in Section 1004(5) of RCRA.
11. The term "**hazardous material**" shall mean all hazardous substances, pollutants or contaminants, and hazardous wastes, as defined above, including PCBs, and shall include all by-product and off-specification wastes used or generated by the Respondent.
12. The term "**non-hazardous material**" shall mean all pollutants and contaminants, as defined above, excluding hazardous material.
13. The term "**facilities**" or "**facilities in question**" shall mean the William G. Kummrich Plant, the J.F. Queeny Plant, and any other facility owned or operated by Monsanto from which materials may have been disposed in Sauget Area 1 or Sauget Area 2 sites.

ATTACHMENT 3. SITE MAPS





SOURCE: USGS Cahokia Quad, 1974.



SAUGET AREA 2

ATTACHMENT 4

SUPPLEMENTAL INFORMATION REQUESTS

Sauget Areas I and II
Pre-National Priorities List Superfund Sites

1. Identify all hazardous materials which ever were disposed of or may have been disposed of from the facilities at the sites as defined in Attachment 3. Include the nature of the material, the chemical content, the process for which the material was used or the process which generated the material, the disposal location and the time period of disposal.
2. Identify all persons who ever have arranged or may have arranged for disposal or arranged for transportation for disposal, of hazardous materials from the facilities to the sites.
3. Has Monsanto ever used "GE supermix X-ray refresher" at the facilities? (See Attachment 7, photo numbers 17 & 18) If so,
 - a. Identify the facilities in which it was used and the purpose for which it was used;
 - b. Provide the time frame during which Monsanto used the product;
 - c. List the constituents of this product; and
 - d. Identify how this product was disposed by the facilities; and
 - e. Identify the location of disposal areas for this product or containers for this product.
4. Has Monsanto ever used a pellet/bead-like material as a filter media or for any other use, which either was colored or became colored yellow, blue, tan or brown during use, and which may have been disposed of in the sites? (See Attachment 7, photo numbers: 11, 30, 31, 38, 46, 58, 63, and 64). If so,

- a. Identify the facility where the pellets were used and purpose of the use;
 - b. Provide the time frame during which Monsanto used the material;
 - c. List the constituents and possible contaminants contained in the material; and
 - d. Identify the locations of possible disposal at the sites.
5. Has Monsanto ever used "Octylphenol", a Rohm Haas Company product? If so, please describe the purpose for which it was used, including the time frames in which it was used. (Attachment 7, photo 40).
6. In its previous response, Monsanto references a Great Lakes Carbon Corporation product called "dicalite" (see Exhibits 11 and 13 and Attachment 8, photo numbers 65 & 66). Supply the following information about its use:
 - a. Describe dicalite's purpose;
 - b. Provide the time frame during which Monsanto used this product;
 - c. List the constituents of this product; and
 - d. Identify the locations of possible disposal at the sites.
7. Please identify the time periods during which the facilities in question produced pentachlorophenol and the locations at the sites where hazardous waste products or off-spec material was or may have been disposed, with particular attention to the time period prior to the opening of Site R in Area 2.
8. Identify if Monsanto ever used the stencils shown in Attachment 7, photo numbers: 24-29, 67, 89, & 90. If so, describe the purpose (i.e., the object that would have been stenciled, etc.), and identify who transported the stencils and other solid waste to the site for disposal.

9. Describe the duties and role of Department 246 at the Krummrich Plant.
10. Provide the name and address of the company who supplied sampling and laboratory glassware for the facilities.
11. Describe Monsanto's procedure/method for disposal of used or broken laboratory glassware from the facilities, including any chemical contents of the glassware.
12. Explain how Monsanto disposed of off-specification material and other material (hazardous or non-hazardous) from the facility prior to the opening of "Site R" in the Sauget Area 2 Site in 1957, including those chemicals listed in exhibits 2 and 3.
13. Explain how Monsanto disposed of off-specification material and hazardous and non-hazardous plant wastes from the facility after "Site R" closed in 1978, including those chemicals listed in exhibits 2 and 3.
14. Describe the chemical components and uses of the Monsanto product "Santomer No.1". (See Attachment 7, photo numbers 21, 22, & 23)
15. Describe the contents of Monsanto's Krummrich Plant liquid waste stream prior to 1989, with particular attention to the Krummrich Plant's method of disposal of liquid plant wastes prior to the Village of Monsanto's installation of the sanitary sewer system.
16. Identify Monsanto's permitted agents who were responsible for transporting waste to Monsanto's landfill (Site R). Were any of the agents involved in the disposal of chemical wastes generated at the facilities prior to the opening of Site R?
17. What procedure did the above mentioned agents follow in disposing of hazardous waste. Include any documentation that was required.
18. With reference to exhibits 6 and 7, identify or provide the following:

9. Describe the duties and role of Department 246 at the Krummrich Plant.
10. Provide the name and address of the company who supplied sampling and laboratory glassware for the facilities.
11. Describe Monsanto's procedure/method for disposal of used or broken laboratory glassware from the facilities, including any chemical contents of the glassware.
12. Explain how Monsanto disposed of off-specification material and other material (hazardous or non-hazardous) from the facility prior to the opening of "Site R" in the Sauget Area 2 Site in 1957, including those chemicals listed in exhibits 2 and 3.
13. Explain how Monsanto disposed of off-specification material and hazardous and non-hazardous plant wastes from the facility after "Site R" closed in 1978, including those chemicals listed in exhibits 2 and 3.
14. Describe the chemical components and uses of the Monsanto product "Santomer No.1". (See Attachment 7, photo numbers 21, 22, & 23)
15. Describe the contents of Monsanto's Krummrich Plant liquid waste stream prior to 1989, with particular attention to the Krummrich Plant's method of disposal of liquid plant wastes prior to the Village of Monsanto's installation of the sanitary sewer system.
16. Identify Monsanto's permitted agents who were responsible for transporting waste to Monsanto's landfill (Site R). Were any of the agents involved in the disposal of chemical wastes generated at the facilities prior to the opening of Site R?
17. What procedure did the above mentioned agents follow in disposing of hazardous waste. Include any documentation that was required.
18. With reference to exhibits 6 and 7, identify or provide the following:

- a. The circumstances surrounding Monsanto's decision to include an additional provision in its agreement with Sauget forbidding scavenging;
 - b. Any information, employee interviews or otherwise, that Monsanto has regarding Sauget and Company's (a.k.a. Industrial Salvage and Disposal) scavenging activities; and
 - c. Any information Monsanto has regarding Sauget and Company's (or Industrial Salvage and Disposal's) drum removal.
-
- 19. What was the process for deciding, and who decided, what materials should be disposed of in Site Q and Site R of Sauget Area 2? If a determination of "hazardous" vs "non-hazardous" materials was part of that process, how was the determination made? (See exhibit 10.)
 - 20. Explain exhibit 4, specifically, give site location for each landfill this document references; and further explain violations #3 and #5 located on page 2 of the exhibit.
 - 21. Provide the chemical characteristics of P2S5 and explain the location of "outside of the fenced area" as exhibit 8 instructs.
 - 22. Provide any results or documents from tests outlined in exhibit 9.
 - 23. Identify which Site (ie, site R, site G, etc.) "Sauget landfill" references in exhibit 12?
 - 24. Provide further explanation of exhibit 15, specifically, discuss what facility the exhibit references; and explain what landfilling operations Monsanto was extending.
 - 25. Define the composition of major PCB products produced by Monsanto in terms of the relative concentrations of Arochlors.
 - 26. Did Monsanto sell drummed PCBs to customers in the Sauget/Cahokia area?

27. Did Monsanto sell bagged PCBs to customers in the Sauget/Cahokia area?
28. Did Monsanto sell unmarked drums or bags containing PCBs to customers in the Sauget/Cahokia area?
29. Did Monsanto produce a PCB product sold to General Electric as "pyronal"?
30. Is Monsanto the only producer of PCBs in the United States? If not, identify other producers.
31. What other chlorinated hydrocarbons besides PCBs did Monsanto produce at the facilities?
32. Identify all of the materials used in large quantities in Monsanto's manufacture of chlorinated hydrocarbons at the facilities, including catalysts.
33. Where did Monsanto dispose of unreacted biphenyl, sludges, tank bottoms, distillate, and off-specification chlorinated hydrocarbons, especially prior to the opening of Site R?
34. Identify Monsanto's customers for chlorinated hydrocarbons in the Sauget/Cahokia area.
35. How, when, and by whom was the Dead Creek culvert obstructed at Judith Lane?
36. On what basis was the material on Exhibit 15 redacted? This material was not redacted at the time the material was previously produced for IEPA and U.S. EPA. Provide an unredacted copy.
37. Exhibit 16 indicates that in the 1920's, liquid wastes flowed to Dead Creek, and that in the early 1930's, overflow from the WGK went to Dead Creek. Indicate what products were being produced at the Krummrich facility during the 1920's and 1930's and what process wastes may have flowed to Dead Creek.
38. Exhibits 16 and 17 indicate that in 1935, Dead Creek was dredged. Where was this dredge material disposed?

39. Supply a readable copy of Exhibit 16, especially the paragraph concerning Waggoner Trucking at the bottom of the last page.
40. Exhibit 17 (p. 2) indicates that after the installation of the Village of Sauget sewer system in 1933, storm water runoff on occasion washed throughout the area, and could have flowed toward the Creek. What did that storm water runoff contain?
41. Exhibit 17 (p.2) indicates that from 1917 to the 1930's, the Krummrich plant disposed of its wastes in "a commercial landfill operated by Leo Sauget in the area around the Sauget Village Hall near Queeny and Nickel Avenues." Identify this landfill by Site letter and identify the composition of those wastes.
42. Identify the exact location of the "landfill west of Highway 3" which is cited at the top of page of Exhibit 17.
43. Identify by Site letter and location, the identity of the landfill to which Exhibit 18 refers.

ATTACHMENT 5

CONFIDENTIAL BUSINESS INFORMATION

You may consider some of the information confidential that the U.S. Environmental Protection Agency (U.S. EPA or Agency) is requesting. You cannot withhold information or records upon that basis. The Regulations at 40 C.F.R. Part 2, Section 200 et seq requires that the U.S. EPA afford you the opportunity to substantiate your claim of confidentiality before the Agency makes a final determination on the confidentiality of the information.

You may assert a business confidentiality claim covering part or all of the information requested, in the manner described by 40 C.F.R. 2.203(b). Information covered by such a claim will be disclosed by the U.S. EPA only to the extent and only by means of the procedures set forth in 40 C.F.R. Part 2, Subpart B. [See 41 Federal Register 36902 et seq. (September 1, 1976); 43 Federal Register 4000 et seq. (December 18, 1985).] If no such claim accompanies the information when the U.S. EPA receives it, the information may be made available to the public by the Agency without further notice to you. Please read carefully these cited regulations, together with the standards set forth in Section 104(e) (7) of Comprehensive Environmental Response Compensation Liability Act (CERCLA), because, as stated in Section 104(e) (7) (ii), certain categories of information are not properly the subject of a claim of confidential business information.

If you wish the U.S. EPA to treat the information or record as confidential, you must advise the U.S. EPA of that fact by following the procedures described below, including the requirement for supporting your claim of confidentiality. To assert a claim of confidentiality, you must specify which portions of the information or document you consider confidential. Please identify the information or document that you consider confidential by page, paragraph and sentence. You must make a **separate** assertion of confidentiality for **each response** and **each document** that you consider confidential. Submit the portion of the response that you consider confidential in a separate, sealed envelope. Mark the envelope confidential and identify the number of the question to which it is the response.

For each assertion of confidentiality, identify:

1. The period of time for which you request that the Agency consider the information confidential, e.g. until a specific date or until the occurrence of a specific event;
2. The measures that you have taken to guard against disclosure of the information to others;

3. The extent to which the information has already been disclosed to others and the precautions that you have taken to ensure that no further disclosure occurs;
4. Whether the U.S. EPA or other federal agency has made a pertinent determination on the confidentiality of the information or document. If an agency has made such a determination, enclose a copy of that determination;
5. Whether disclosure of the information or document would be likely to result in substantial harmful effects to your competitive position. If you believe such harm would result from any disclosure, explain the nature of the harmful effects, why the harm should be viewed as substantial, and the causal relationship between disclosure and the harmful effect. Include a description of how a competitor would use the information;
6. Whether you assert that the information is voluntarily submitted as defined by 40 C.F.R. 2.201(I). If you make this assertion, explain how the disclosure would tend to lessen the ability of the U.S. EPA to obtain similar information in the future;
7. Any other information that you deem relevant to a determination of confidentiality.

Please note that pursuant to 40 C.F.R. 2.208(e) **the burden of substantiating confidentiality rests with you.** The U.S. EPA will give little or no weight to conclusory allegations. If you believe that facts and documents necessary to substantiate confidentiality are themselves confidential, please identify them as such so that the U.S. EPA may maintain their confidentiality pursuant to 40 C.F.R. 2.205(c). If you do not identify this information and documents as confidential, your comments will be available to the public without further notice to you.

ATTACHMENT 6. SITE HISTORY

The Sauget Area 1 and Sauget Area 2 sites are located in and around the villages of Sauget (formerly Monsanto) and Cahokia in west-central St. Clair County, Illinois.

Sauget Area 1 is composed of segments A through F of Dead Creek, and adjacent Sites G, H, I, L, M and N. Dead Creek is an intermittent creek, sometimes impounded, which, was formerly used for waste disposal. The creek segments included in the Site stretch over 3.5 miles. The Creek runs south and southwest through Sauget and Cahokia to an outlet in the old Prairie DuPont Creek floodway, located south of Cahokia. The floodway in turn discharges to the Cahokia Chute of the Mississippi River. Site G, H, and I are inactive landfills or former subsurface/surface disposal areas adjacent to Dead Creek. Based on current available information, Site G was owned by Leo and Louise Sauget and others and was active approximately during the period 1950 to 1973. Site H and I were also owned by the Sauget's and active during approximately 1931 to 1957. Site L is the location of a former surface impoundment used by, among others, Waggoner Trucking Company, a hazardous and special waste hauler, to dispose of wash water from truck cleaning operations approximately during 1971 to 1979. Site M and N are former sand pits immediately adjacent to Dead Creek, which U.S. EPA believe were excavated by the H.H. Hall Construction Company in the 1940's.

The Sauget Area 1 Site has been investigated extensively by the Illinois EPA and by private parties. U.S. EPA, Illinois EPA, and private parties have undertaken protective actions such as fencing of the most highly contaminated portions of the site. Recent history includes the remediation of Dead Creek Segment A by Cerro Copper Products, Inc., in 1990, following the signing of a Consent Decree with the Illinois EPA. Cerro removed over 22,000 cubic yards of contaminated creek sediment. In 1995, U.S. EPA conducted an extensive investigation of the Site G landfill and the surrounding area following an underground fire at Site G. After the investigation, the Agency consolidated contaminated wastes on-site and placed a soil cover over the landfill.

The Sauget Area 1 Site contains high levels of chlorobenzenes, chlorophenols, chloroanilines, nitroanilines and PCBs. The most highly contaminated parts of the Site are fenced

or covered by pavement or slag. U.S. EPA proposed the Sauget Area 1 Site to the National Priorities List in June of 1996.

Sauget Area 2 is composed of Sites O, P, Q, R, and S, as described below. Other adjacent areas may be added as the investigation continues. Site O contains four inactive sludge dewatering lagoons associated with the Sauget Wastewater Treatment Plant. Based on current available information, U.S. EPA believes the lagoons were active from 1967 to 1978. The lagoons cover about 20 acres to the south of the treatment plant buildings. Site P is an inactive landfill which available information indicates was previously operated by Sauget and Company during approximately 1972-1984. The Site P landfill is bordered on the west by Illinois Central Gulf Railroad, on the south by Monsanto Avenue and on the east by the Terminal Railroad Association tracks. Site Q is an inactive landfill which, based on current available information, was operated initially by Sauget and Company, and as active during approximately 1962 to 1975. The site covers about 90 acres and is located on the east bank of the Mississippi River, on the river side of a U.S. Army Corps of Engineers flood control levee. The north part of Site Q is presently occupied by a coal and grain unloading and transfer facility; the southern portion is unoccupied. Site R is an inactive industrial waste landfill owned by Monsanto Chemical Company which was active during approximately 1957 to 1977. Site S is located near the southeast corner of Site O. U.S. EPA believes it was used as a disposal area from about 1974 until the late 1970's. Waste materials believed to have been disposal of here include still bottom sludges and chlorinated solvents.

In 1995, U.S. EPA removed 13 drums and 297 tons of PCB contaminated soil eroding out of Site Q immediately adjacent to the Mississippi River. Site R was capped by Monsanto Corporation in 1979. Based on visual observations, Site Q and R have a long history of leachate flow into the Mississippi River. In addition to the same types of contaminants found in the Sauget Area 1 sites, some parts of Area 2 contain high levels of chlorinated solvents. The Illinois EPA and U.S. EPA anticipate that the Sauget Area 2 Site will be proposed to the National Priorities List early in 1998.

ATTACHMENT 7

PHOTOGRAPHS FROM SAUGET AREA 1, SITE G.

EXHIBIT 1

Monsanto

000002

MONSANTO CHEMICAL INTERMEDIATES CO.

Sauget, Illinois 62201

Phone: (618) 271-5835

May 19, 1978

Mr. Paul Sauget
Sauget & Company
2700 Monsanto Avenue
Sauget, Illinois 62201

Dear Paul:

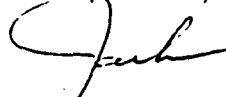
This letter is to give you thirty (30) days notification of our intentions to terminate the terms and conditions of Contract 02-03-0565.

As you are aware we have discussed the forthcoming plans to close the W. G. Krummrich Plant's sanitary landfill operated by your company under the above contract. We expect field work to begin within the next month.

We do request that upon receipt of verbal notification from Mr. Frank Basile that you shift the total hauling and disposal of cinders from Monsanto's W. G. Krummrich Plant and its J. F. Queeny Plant to your sanitary landfill. This is consistent with the terms of Contract 02-03-0563 for disposal.

We discussed the possibilities that there will be some changes in our general direction on use of landfills very shortly. Will plan to keep you advised as these directions change. We are continuing to work with our CED personnel concerning the WGK sanitary landfill to see if we can extend the use for another few months.

Very truly yours,



Jack W. Molloy
Plant Manager

ap

cc: F. J. Basile - WGK Plant
P. E. Heisler - WGK Plant
D. M. Francisco - WGK Plant

MCO 0616503

COMPANY CONFIDENTIAL

a unit of Monsanto Company

000003

AGREEMENT
between
MONSANTO COMPANY
and
SAUGET AND COMPANY

DATED
January 1, 1976

for
Sanitary Landfill
W. G. Krummrich Plant
Sauget, Illinois

COMPANY CONFIDENTIAL

WASTE DISPOSAL AGREEMENT

000004

This Agreement made and entered into as of the first day of January, 1976, by and between MONSANTO COMPANY, a Delaware corporation, of St. Louis, Missouri (hereinafter called "Monsanto"), and SAUGET AND COMPANY, a Delaware corporation, of 2700 Monsanto Avenue, Sauget, Illinois (hereinafter called "Sauget"),

WITNESSETH:

WHEREAS, by an Indenture of Lease dated January 1, 1970, extended by letter agreement dated December 29, 1972, Sauget has leased from Monsanto a tract of land of approximately twenty-two acres located near the east bank of the Mississippi River in the Village of Sauget, Illinois (hereinafter called the "Leased Property"); and

WHEREAS, Sauget proposes to operate on the Leased Property a sanitary landfill (hereinafter called the "Landfill") to provide for the disposal of certain chemical waste materials of Monsanto;

NOW, THEREFORE, in consideration of the mutual covenants herein contained and for good and valuable other consideration, Monsanto and Sauget hereby agree as follows:

1. Operation of Landfill. Sauget shall operate the Landfill on the Leased Property in accordance with the procedures, terms and provisions set forth in the Specifications attached hereto and made a part hereof. Monsanto, at its own expense, shall arrange for the trucking of the

MC0
0616506

COMPANY CONFIDENTIAL

chemical wastes from its chemical plants to the site of the Landfill, and for the unloading of such wastes at the Landfill. In disposing of material in said Landfill, Monsanto and all third parties employed by it for such purposes shall comply with all provisions of this Agreement. In the event of any breach of such provisions by any third party, Sauget shall notify Monsanto which shall not thereafter use or employ such third party. Sauget shall furnish and provide all labor and other personnel and all materials and equipment necessary for the proper operation of the Landfill. Monsanto shall notify Sauget of the Monsanto employee (hereinafter called the "Engineer") who is authorized to represent Monsanto under this Agreement.

2. Scavenging Forbidden. Under no circumstances shall any materials or containers which have been delivered to the Landfill by Monsanto for disposal be scavenged or retrieved for reuse or resale. Sauget covenants that it will use its best efforts to assure that this prohibition is reasonably implemented.

3. Price. In full payment for Sauget's entire performance of its work under this Agreement, Monsanto shall pay to Sauget each month the sum of Nine Thousand Six Hundred Sixty Dollars (\$9,660.00).

MCO 0616507

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4. Payment Procedure. Invoices for the monthly payment shall be submitted to the Engineer by Sauget on or about the first day of each month. The invoices shall be in such form and supported by such evidence as the Engineer may direct, including evidence satisfactory to the Engineer that all payrolls, materials bills and other indebtedness connected with the work under this Agreement to date have been paid. Within twenty days after receipt of such invoice in proper form, Monsanto shall pay to Sauget the amount due for the preceding calendar month.

5. Safety and Miscellaneous Provisions.

(a) Sauget shall strictly comply with all safety provisions set forth in the Specifications. Sauget shall take all other necessary steps and precautions for the safe operation and maintenance of the Landfill. Sauget shall cause all gates in the fences erected on the Leased Property to be closed and securely locked at all times except during such periods as Sauget shall be conducting operations at the Landfill. During the periods in which the gates and fences are unlocked for the conducting of landfill operations, Sauget personnel shall allow entry only to Monsanto personnel and properly authorized third parties.

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(b) In operating the Landfill, Sauget shall observe and comply with all applicable Federal, State and local laws and regulations.

(c) In operating the Landfill and performing its work under this Agreement, Sauget shall be an independent contractor and shall have complete control of all of its employees and operations. All personnel employed by Sauget shall be employees of Sauget and not of Monsanto, and Monsanto shall have no right to direct or supervise such personnel.

(d) Monsanto and Sauget agree that, in the event of changes in the wage rates of Sauget's personnel or the premature need for replacement of Sauget's equipment employed on the work under this Agreement, either party shall have the right to renegotiate the Price specified herein on the anniversary date of this Agreement by giving to the other party at least thirty days' prior written notice of its desire to renegotiate.

6. Indemnity Provisions. Sauget shall defend, indemnify and hold harmless Monsanto from and against any and all liability, claims, causes of action, suits, judgments, fines, penalties, losses, damages, costs and expenses of whatever kind or character arising out of injuries to or the death of any person or damage to or destruction of any property, caused by or resulting from or connected with (a) the

MCO 0616509

COMPANY CONFIDENTIAL

maintenance or operation of the Landfill unless caused by the sole negligence of Monsanto, or (b) other activities of Sauget pursuant to this Agreement.

7. Insurance by Sauget. Sauget shall take out and maintain during the term of this Agreement and for such period thereafter as Monsanto shall specify upon termination, the following insurance:

(a) Workmen's Compensation and Occupational Disease Insurance in an amount equal to the limit of liability and in the form prescribed by the laws of Illinois for all of Sauget's employees engaged in work in connection with the operation of the Landfill. To the extent that any such employees are not protected by such a statute, Sauget shall also provide Employer's Liability Insurance in an amount not less than \$500,000 for bodily injury by accident or disease, including death at any time resulting therefrom.

(b) Public Liability Insurance covering claims for injuries to or death of persons or damage to or destruction of property arising from the maintenance or operation of said Landfill, whether such operations be by Sauget or any person directly or indirectly employed by Sauget, and covering liabilities assumed by Sauget pursuant to paragraph 6 above.

MCO 0616510

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The amount of such insurance shall be not less than: (i) \$200,000 for injury to, or for the death of, any one person; and, subject to the same limitation for each person, in an amount not less than \$1,000,000 on account of any one occurrence; and (ii) \$200,000 for damage to property on account of each accident.

(c) Automobile Public Liability and Property Damage Insurance covering all owned or rented automotive equipment used by Sauget in the performance of this Agreement. Such liability insurance shall be in an amount not less than \$200,000 for injury to, or for the death of, any one person, in an amount not less than \$500,000 on account of any one accident. Property damage limits with respect to such insurance shall be not less than \$50,000 for each accident.

Such insurance shall be in a form satisfactory to Monsanto and Sauget shall furnish to Monsanto certificates of such insurance satisfactory to Monsanto. Each contract of insurance shall contain the following clause:

"No reduction, cancellation or expiration of the policies providing the above coverages shall become effective until ten days from the date written notice is actually given to Mr. D. M. Francisco, Purchasing Supervisor, Monsanto Company, W. G. Krummrich Plant, Sauget, Illinois."

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MCO 0616511

All policies of insurance shall be countersigned by a duly authorized and accredited agent, or agents, of the carrier residing in the State of Illinois. All insurance shall be carried with insurance companies which, in the case of mutual companies, have a surplus to policyholders in excess of one million dollars (\$1,000,000) and in the case of stock companies, which have total capital and surplus in excess of one million dollars (\$1,000,000).

8. Term and Termination. This Agreement shall commence on January 1, 1976, and shall expire on December 31, 1978, unless sooner terminated. This Agreement may be terminated at any time for any reason by either party giving at least thirty days' written notice to the other party of its intention to terminate. A termination of this Agreement shall not relieve Sauget of its obligations as set forth in paragraphs 6 and 7 above.

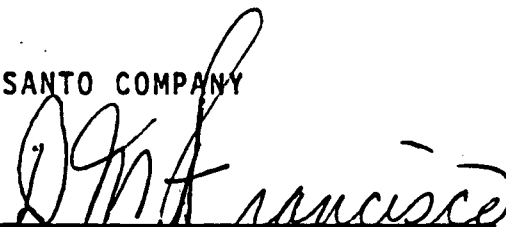
9. Prior Negotiations. This Agreement and the Indenture of Lease of even date herewith sets forth the entire agreement of Monsanto and Sauget with respect to the subject matter hereof. This Agreement shall supersede the Agreement dated January 1, 1973, between Monsanto and Sauget and Company. All prior negotiations regarding the subject matter hereof shall be deemed to be merged herein.

COMPANY CONFIDENTIAL

IN WITNESS WHEREOF, Sauget and Monsanto have each caused this Agreement to be executed by its duly authorized representative as of the day and year first above written.

MONSANTO COMPANY

By



D. M. Francisco
Purchasing Supervisor

SAUGET AND COMPANY

By



Paul Sauget

COMPANY CONFIDENTIAL

EXHIBIT 2

000012

ATTACHMENT D - LANDFILL INVENTORY

Information on two attempts to characterize and quantify the waste material disposed of at the landfill were located. These are attached for your use and review.

S(K+E)
II
Steel
2

3
B

Names of materials
disposed

MCO 0616514

COMPANY CONFIDENTIAL

K000001

CONFIDENTIAL

WASTE MATERIALS DISPOSED OF AT
MONSANTO/SAUGET LANDFILL SITE

000013

1. Stabilizer Residue
 - 50% Aromatic Tars
 - 50% Inorganic Iron and Sulfur Compounds
2. Spent Vanadium Catalyst
3. Vacuum Distillation Residue
 - 90% Aromatic Tars
 - 5% Potassium Chloride
 - 5% Potassium Carbonate
4. Phosphate Ester Residue
 - 70% Polymerized Phosphate Ester
 - 18% Organic Tars
 - 12% $MgCl_2$
5. Dry Bleach - Scrap Product
6. Phosphorus Pentasulfide - Scrap Product
7. Spent Activated Carbon
8. Sludge from chlor-alkali sulfide treatment system,
and gyp from brine treatment.
9. Filter Mud
 - 83% Lime
 - 15% Dicalite Filter Aid
 - 2% Dye Residue
10. Still Residue
 - 30% Phenacetin
 - 60% Organic Tars
 - 10% P-chloracetanilid

MCO 0616515

COMPANY CONFIDENTIAL

K00002

000014

11. Still Residue
 - 40% Methyl Salicylate
 - 20% Organic Tars
 - 40% Hydroxy Isophthalate
12. Asprin Powder Scrap
13. Process Residue
 - 85% Sulfones
 - 15% Toluene Sulfonyl Chloride
14. Process Residue
 - 100% Toluene Sulfonamides
15. Filter Cake
 - 97% Carbon
 - 3% Organics
16. Still Residue
 - 20% Iso-Ethavan
 - 30% Ethavan Dialdehyde
 - 50% Organic Tars
17. Process Residue
 - 17% Zinc Chloride
 - 83% Phthalylchloride Fractions
18. Filter Cake
 - 50% Filter Cake
 - 20% Carbon
 - 20% Alumina
 - 10% Solka Flock
19. Filter Cake
 - 50% Dicalite Filter Aid
 - 50% Plasticizer

MCO 0616516

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K00008

000015

20. Filter Cake

50% Santicizer 8
48% Dicalite Filter Aid
2% Carbon

21. Process Residue

80% Benzoic Acid Residue
20% Organic Tars

22. Process Residue

50% Polyethylene Glycol
40% Trimethoxy - Benzaldehyde

23. Santolite MS or MHP

Scrap Product

MCO 0616517

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K00004

EXHIBIT 3

Monsanto

COMPANY CONFIDENTIAL

F. J. Basile, Jr. - WGK

June 29, 1977

WASTE DISPOSAL AT THE
WGK SANITARY LANDFILL

TO

M. A. Pierle - GO (ELSA)

C. F. Buckley
R. L. Harness 000016
P. E. Heisler
M. W. McCombs - 1760
J. W. Molloy
A. Peterson - GO (F3EB)
C. Schrock - GO (F4WE)

In response to your request for a qualitative listing of wastes that have been disposed of at the WGK Sanitary Landfill, I have researched files back through the opening of the landfill in 1959 and have compiled the attached list of wastes disposed of by WGK, JFQ, and Muscatine Plants and by Corporate Research. Please understand that this list may not be all inclusive, but it is the best information that I have been able to assemble and it does serve to indicate the broad use of the landfill.

This list also includes any verbal input that I may have received from some of the key plant personnel who were or have been at WGK over the last eighteen years.

Frank

Frank J. Basile, Jr.

mk
Attachment

K+E

II

Site R

2

#4
B

MCO 0616518

COMPANY CONFIDENTIAL

K 02050

QUALITATIVE LIST OF WASTES DISPOSED OF AT
THE WCK SANITARY LANDFILL LOCATED ON THE
MISSISSIPPI RIVER FLOOD PLAIN FROM OCTOBER,
1959 TO DATE

000017

4-Nitrodiphenylamine

2-Nitrodiphenylamine

4,4'-Dinitrodiphenylamine

4,4'-Dinitrotriphenylamine

Chlorophenols

Sodium Chlorophenate

Phenols

Sodium Chloride

Sodium Carbonate

Benzyl Chlorophenyl Ether

Dibenzylparachlorophenol

Lime

Paranitroaniline Filter Mud

2,6 Dichlorophenol

2,4 Dichlorophenol

Glycollates

Maleic Anhydride

Polybutene

MCO 0616519

Methanol contaminated with mercaptans

Ortho-nitrochlorobenzene

Orthodichlorobenzene

Trichlorobenzene

Dichlorobenzene

Ortho, Meta, and Para Nitrochlorobenzene

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K 02051

QUALITATIVE LIST OF WASTES DISPOSED OF AT
THE WCK SANITARY LANDFILL LOCATED ON THE
MISSISSIPPI RIVER FLOOD PLAIN FROM
OCTOBER, 1959 TO DATE

COMPANY CONFIDENTIAL

Page 2.

Ortho and Para Phenetidine

Anisole

Anisidine

Phthalic Anhydride

Benzoic Acid

Miscellaneous solvents from research

Still residue from Cyclamate manufacturing

Salicylic acid and tars

Santicizer 460

Cresyl Diphenyl Phosphate

Bisphenol A

Oil additives

Plasticizers

Dichloroaniline and Still Residue

Trichloro Carbanilide

Chlorobenzol (Tri-Tetrachlor)

Aniline derivatives

Nitrobenzene derivatives

Aromatic carboxylic acids (Maleic, Phthalic, etc.)

Chlorophenol Ether

Water with varying amounts of phenols (0-15%)

Sulfuric acid with chlorophenol

Caustic Soda solution with chlorophenol

Isopropanol - water and chlorinated hydrocarbon

Attapulugus Earth - Keisulguhr from Alkyl Benzene filtration

000018

MCO 0616520

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K 02052

QUALITATIVE LIST OF WASTES DISPOSED OF AT
THE WGN SANITARY LANDFILL LOCATED ON THE
MISSISSIPPI RIVER FLOOD PLAIN FROM
OCTOBER, 1959 TO DATE

COMPANY CONFIDENTIAL

Page 3.

000019

Laboratory samples (to include raw materials, intermediates and
finished goods over the last twenty years)

Amides

TSCl

Toluene Sulfonic Acid plus off-spec TS Acid

Kalcolor

Central Drumming at JFQ

Filter Aids

Lye Scrubber Solution

Isocyanate

Napthalene Residue

Mixture of carbon, C-4, dry old spec product and junk

Para Still Residue (JFQ)

Iron Sludge

Spent Vanadium Catalyst (V_2O_5)

Benzaldehyde

Benzyl Acetate

2,Methyl Diphenyl

Bibenzyl

Benzyl Benzoate

Toluene

Cellulose Flour

Santicizer 856

Mother liquor (PVI)

Varsol (kerosene cut)

Sumithion Residue

Miscellaneous oils and organic solvents and side streams

MCO 0616521

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K 02053

QUALITATIVE LIST OF WASTES DISPOSED OF AT
THE WVK SANITARY LANDFILL LOCATED ON THE
MISSISSIPPI RIVER FLOOD PLAIN FROM
OCTOBER, 1959 TO DATE

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Page 4.

000020

Azo Residue containing: Paraformaldehyde
2, ethylaniline azomethine
2,6, diethylaniline azomethine
2, ethyl-6, butylaniline azomethine
2,6, diethylaniline

Contaminated Monochlorobenzene containing: Methanol
2,6, diethylaniline
2,6, diethylaniline
azomethine

Lasso Batch 7-56B containing: Monochlorobenzene
Chloromethylamide intermediate
2,6 diethylaniline azomethine
unknowns

Ramrod fines containing: 2-chloro-isopropylacetanilide
Attapulgitic Clay

Lasso fines containing: 2 chloro - 2', 6' - diethyl-N-acetanilide
Monochlorobenzene
Attapulgitic Clay

Londox fines containing: 2-chloro-isopropylacetanilide
3-(3,4-dichlorophenyl) -1-methoxy-1
Methylurea
Diethylene Glycol
Attapulgitic Clay

Cresylic Acid Still Residue

Rototherm Residue

Triphenyl Phosphate

Santicizer 154

Santicizer 160

Tricresyl Phosphate

Chlorodiphenyl Phosphate

Chlorophenoxyacetic acids

Polychlorinated Biphenyls

Biphenyl

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K 02054

MCO 0616522

QUALITATIVE LIST OF WASTES DISPOSED OF AT
THE WCK SANITARY LANDFILL LOCATED ON THE
MISSISSIPPI RIVER FLOOD PLAIN FROM
OCTOBER, 1959 TO DATE

COMPANY CONFIDENTIAL

Page 5.

Phenol process wastes containing:

000021

Phenyl Phenols
Sulfones
Sodium Bromo Succinamide
Sulfate Salts
Chloride Salts
Benzene, SO₂, and Sulfuric Acid
Caustic
Sulfite
Salt Cake

Benzyl Chloride

Phosphorus Pentasulfide

Chlor-Alkali Gyp and Sulfide Sludge

Spent sulfuric acid

Phosphorus and "Phossey" water

Parathion

Scrap Sulfur

Orthonitrophenol (Bad batches)

MCO 0616523

ACI

Activated carbon from hydrogen compressor (contaminated with
mercury)

Flyash and Cinders

Miscellaneous discarded equipment such as tanks, piping, pumps,
heat exchangers, etc.

Miscellaneous construction rubble, trash and debris, and
excavation material.

Prepared by:

F. J. Basile, Jr.
6/29/77

mk

K 02055

COMPANY CONFIDENTIAL

EXHIBIT 4

Monsanto

FROM (NAME & LOCATION) M. R. Foresman - Krummrich

DATE March 9, 1971

cc C. F. Buckley

SUBJECT W. G. KRUMMRICH LIQUID AND SOLID
WASTE DISPOSAL - STATUS REPORT

000022

TO : P. E. Heisler

Confirms no outside sources since 5/18/79

BACKGROUND

At the present time the Krummrich plant uses three different methods for disposal of its liquid and solid wastes:

- (1) Solid waste and trash hauled to the Sauget Village sanitary landfill.
- (2) Liquid chemical waste hauled to the Monsanto sanitary landfill.
- (3) Liquid waste disposal through the Village of Sauget sewer system.

The continued use of the Monsanto landfill as a method of disposal for liquid chemical wastes has been in doubt since 1968 when the State found evidence of ground water contamination, and the recent State inspection of the Village landfill, with many deficiencies noted, could conceivably cause the Pollution Control Board to issue a cease and desist order against both landfills.

DETAILS

A. W. G. Krummrich Waste Disposal 1970

MCO 0616524

During 1970 the following quantities of waste, excluding trash, were disposed of at the Village and chemical landfill.

Sauget Village Landfill (mostly filter aid) 10,073,470 #/year

Monsanto Chemical Landfill 540,153 #/year (drums)

25,349,310 #/year

TOTAL 35,962,933 #/year

COMPANY CONFIDENTIAL **K** 02033

DETAILS (continued)

B. Village of Sauget Sanitary Landfill

During December of last year, a sanitary inspector from the Environmental Protection Agency inspected the Sauget Sanitary Landfill and found seven (7) different violations of the Environmental Protection Act as follows:

1. The site is not adequate fenced with an entrance gate that can be locked and posted.
2. Opening and closing hours and days of operation are not clearly shown.
3. Dumping of refuse on the site is not confined to the smallest practical area.
4. Portable fencing is not used to prevent blowing litter from the unloading site.
5. The fill and surrounding area is not policed to collect all scattered material.
6. A compacted layer of at least six (6) inches of cover material is not applied to all exposed refuse at the end of each working day.
7. All salvaged materials are not removed from the landfill site daily or properly stored so that they will not create a nuisance, rat harborage or unsightly appearance.

To date, I have been advised that only items number 2 and 3 have been satisfactorily corrected. A portable fence as described in number 4 is being used, but only running approximately 150 feet along the northern edge of the unloading site. During a recent inspection of the landfill, the writer noticed litter being blown west from the unloading site toward the river.

C. Monsanto Chemical Waste Landfill

MCO 0616526

At the present time, Ranney well contamination is running about 5 PPM phenol and has averaged this for the last six months. All of the liquid chemical waste taken to the landfill is discharged into segregated lagoons in the south area of the landfill, and chemicals hauled in drums are unloaded and buried in the center of the landfill. Adequate

COMPANY CONFIDENTIAL K02034

C. Monsanto Chemical Waste Landfill (continued)

cover material is being used for the drummed materials and the writer found only one item that needs correction - a fire hose used to wash out trailers does not have an easily accessible shutoff and, therefore, is left running at about 10 GPM which might cause percolation of the waste chemicals into the ground water.

D. Effects of Village and Monsanto Landfill Shutdown on W.G.K.

If the landfills were ordered to cease operation, the W. G. Krummrich plant would be put in the position of having approximately 100,000 #/day of chemical waste plus trash to dispose of by other methods. Proposed short and long range solutions to this are as follows:

1. Short Range Solution

- a. Trash and solid waste - This material could easily be hauled to another landfill. The Millstadt strip mining area would probably be the closest and a contract could probably be negotiated with a landfill operator in this area.
- b. Liquid chemical waste - The disposal of the liquid chemical wastes would have to cease, seriously effecting the operation of the Krummrich plant. At the present time, there is no other chemical landfill capable of handling our waste products and no easy short range solution for this problem. It is felt that both the Krummrich plant and Queeny plant would be forced to curtail production by 50% within three days of a landfill shutdown because of the complex interrelationship of production departments at both plants.

2. Long Range Solution

MCO 0616527

The long range solution of the waste problem should be handled by a combination of three different methods. These are as follows:

- a. Landfill - Monsanto Company should consider purchasing land in the Millstadt strip mining area for development of a sanitary landfill for disposal of its non-combustible chemical solids and trash. The landfill should be capable of handling

COMPANY CONFIDENTIAL **K** 02035

D. Effects of Village and Monsanto Landfill Shutdown on W.G.K.
(continued)

2. Long Range Solution (continued)

- a. waste material from W.G.K., Queeny and the G.O. as is presently done at the Sauget landfill. The operation could be handled by an outside contractor on a yearly bid basis to avoid Monsanto personnel being required to operate the landfill. The State Environmental Protection Agency should be formally approached for permission to operate a new liquid chemical landfill in this strip mining area. From past informal discussions, it is hardly likely to be granted, but the expense of the other alternatives makes it worth the effort.
- b. Deep well disposal - This method is the most efficient and least costly method for the disposal of waste which could not easily be handled by incineration or conventional surface treatment. Monsanto Biodize Systems, Inc. has prepared both a feasibility study of subsurface liquid waste disposal and a final construction and testing procedure plans and specifications report for the W. G. Krummrich plant to use in obtaining approval from State of Illinois officials to begin drilling of the exploratory well.

Table I shows a breakdown of the liquid wastes that are presently being hauled to the sanitary landfill and which we would like to dispose of by use of a deep well. Also, because of the cost of neutralization before secondary treatment, some acid streams that are now being sewered would be more economically disposed of by deep well injection. These streams are listed in Table II.

- c. Incineration - For positive control of liquid and solid combustible waste, incineration facilities will be required. Since most of the Queeny waste will be amenable to incineration, it appears that it would be more desirable to use the same facilities and personnel for disposal of the present landfill waste. In the near future, the Aroclor incinerator will be in operation and current indications are that only approximately 25% of the Aroclor incinerator capacity will be needed for waste Aroclors, thus leaving 7.5 M #/year of unused capacity for the disposal of other liquid wastes. At the present time, we are in the process of developing a tentative

MCO 0616528

COMPANY CONFIDENTIAL K 02036

D. Effects of Village and Monsanto Landfill Shutdown on W.G.K.
(continued)

2. Long Range Solution (continued)

- c. list of wastes to incinerate from the approximately 25 M #/year of liquid chemicals hauled to the landfill.

If the Aroclor incinerator will be capable of handling approximately 5 M #/year of WGK's liquid waste, then the capacity of the proposed incineration facility would be approximately 15 M #/year. In any event, a detailed study is needed to determine the physical and chemical characteristics of the waste to define the exact handling, storage and incineration requirements.

E. Sauget Village Treatment Plant

At the present time, the W. G. Krummrich plant discharges approximately 10,000 GPM of waste water to the Sauget Village treatment plant. Monsanto Biodize is in the process of doing a two-year study for the construction of a secondary treatment plant, and preliminary data indicates that an extensive amount of in-plant work will be required prior to June 1974, for the reduction of nitrogen and its compounds. The process changes and/or control equipment for nitrogen removal will most likely produce liquid and solid waste which will further add to our disposal problems. In-plant reduction for other compounds will probably become evident as Monsanto Biodize begins to obtain data from its pilot plant treatability studies.

F. Future Work

The Pollution Control Group at W.G.K. has been involved with all of the mentioned liquid and solid waste disposal problems in a control and/or advisory capacity, and at the present time, future work toward their solution is as follows:

1. Continue work toward tentative approval from State officials for the drilling of the exploratory Deep Disposal Well.
2. Work with production and TSD personnel in the selection of waste materials to incinerate in the Aroclor incinerator.

COMPANY CONFIDENTIAL K 02037

WCO
0616529

F. Future Work (continued)

3. Approach the State Environmental Protection Agency for permission to operate a liquid and solid chemical landfill in the Millstadt strip mining area.
4. Conduct an audit of the major departments effected by a landfill shutdown and their interrelationship with other non-landfill waste producing departments.
5. Conduct a survey as to the best means of disposal (landfill, deep well, incineration) for each waste material presently leaving the W. G. Krummrich plant. Comparable work should be done by the Queeny pollution group so that the total picture could be developed.

Mike Foresman
Mike Foresman
Pollution Control Group

pd
Attachments

MCO 0616530

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K 02038

000038

TABLE IDEEP WELL DISPOSAL - LANDFILLED CHEMICAL WASTES

<u>DEPT.</u>	<u>GPY</u>	<u>COMPOSITION</u>
236	360,000	3% chlorophenol 15% (Na ₂ CO ₃ , NaCl) 82% H ₂ O
236	170,000	85% H ₂ SO ₄ 15% Cl - phenol -
237	344,000	12% Cl - phenol 20% NaCl 68% H ₂ O
Rip Track	216,000	15% (phenol, aroclor, DCP) 85% H ₂ O

MCO 0616531

COMPANY CONFIDENTIAL

K 02039

TABLE IIDEEP WELL DISPOSAL - SEWERED CHEMICAL WASTES

<u>DEPT.</u>	<u>GPY</u>	<u>COMPOSITION</u>
209	230,000	77% H_2SO_4 17.6% H_2O 4.8% HNO_3 .6% NDDB
208	55,700,000	99.5% H_2O .5% (H_2SO_4 , HNO_3 , NCB)
251	5,840,000	94.4% H_2O 5% H_2SO_4 .6% Ammelide
273	19,000,000	95.3% H_2O 3.1% HNO_3 1.4% Nitro benzene derivatives .2% HCl & Cl_2

MCO 0616532

COMPANY CONFIDENTIAL **K** 02040

Waste Landfill

PROGRESS REPORT

TECHNICAL SERVICES DEPT. - E. G. KRUMRICH PLANT

JOB NO.

91341:9002

REPORT NO.

3

DATE

1, 27,

E. G. KRUMRICH PLANT			GENERAL OFFICE	OTHERS
<input checked="" type="checkbox"/> G.L. Bratsch	<input checked="" type="checkbox"/> W.C. Engman	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> M.P. Lux	<u>Anniston</u>
<input checked="" type="checkbox"/> D.W. Jackson	<input checked="" type="checkbox"/> S.H. Jackson	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> D. Danna (4)	<input checked="" type="checkbox"/> J.C. Landwehr
<input checked="" type="checkbox"/> F.E. Heisler	<input checked="" type="checkbox"/> D.C. Armstrong	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> D.B. Hosmer/ F.J. Holzapfel	<u>Nitro</u>
<input checked="" type="checkbox"/> B.W. Corlew	<input checked="" type="checkbox"/> H.B. Patrick	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> R.E. Howard	<input checked="" type="checkbox"/> W.R. Kellogg
<input checked="" type="checkbox"/> E.R. Billen	<input checked="" type="checkbox"/> G.C. Vincent	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> P.B. Hodges	<u>S. 2nd St.</u>
<input checked="" type="checkbox"/> J.C. Hume	<input checked="" type="checkbox"/> J. Jennings	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> P.O. DeGarmo
<input checked="" type="checkbox"/> A.E. Leisy	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> T.M. Patrick
<input checked="" type="checkbox"/> T.W. Dalton	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> J.F. Quinn
<input checked="" type="checkbox"/> B.R. Williams	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> R.L. Wiese
<input checked="" type="checkbox"/> C.N. Deubner	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> M.E. Batz-CE

* TO RECEIVE DETAIL SECTION

TITLE:

W.G.K. Waste Disposal - 1970

000030

PERSONNEL:

M. Foresman (C. F. Buckley)

PROBLEM:

Determine the volume of all W.G.K. chemical waste disposed of at the sanitary landfill during 1970, and the cost for the disposal of this waste and trash during 1970.

SUMMARY

During 1970, the following quantities of chemical waste were disposed of at the Village and sanitary landfill. The total cost for the disposal of this waste and trash was \$135,670 (\$95,814 hauling and \$39,856 landfill operation).

	<u>#/year</u>
1) In drums	540,153
2) In dumpster boxes	10,073,470
3) In trailers and tanks	<u>24,349,310</u>
	34,962,933

Mike Foresman

M. Foresman

MCO 0616533

pd

COMPANY CONFIDENTIAL K 02041

COMPANY CONFIDENTIAL INFORMATION

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DETAILS

A. Table 1 details the composition and volume of chemical waste generated at W.G.K. and disposed of at the Village and sanitary landfill.

TABLE 1VOLUME OF CHEMICAL WASTE

DEPT.	MATERIAL	TRAILERS/TANKS	DUMPSTER BOXES	DRUMS
275	Spent maleic anhydride Filter aid	1,500,000	875,000	
239	Still residue (25-40% Santophen #1)	1,110,000		
222	ONA residue Contaminated PNCB			13,200 13,200
250	40% P, 60% H ₂ O			25,000
245	P ₂ S ₅			5,000
248	Mg-Phosphorus complex, high boilers	900,000		
233	FeCl ₃ , S, Cl-Benzene		120,000	
208 209 220 221	Meta fraction-35% meta Nitrochlorobenzene, 45% Para, 20% ortho	2,000,000		
254	Recovered phenol			20,000
255	NDPA residue	2,400,000		
213-217	Residue	3,000	MCO 0616534	
266	Filter aid, Santolubes, Process oil, zinc oxide P ₂ S ₅ , H ₂ O		926,470	9,900
270	Filter aid Ca solids #5 oil, S-290C, S-291 Methanol, oil P ₂ S ₅ , H ₂ O	709,850	1,900,000 950,000 1,900,000	1,200

COMPANY CONFIDENTIAL K 02042

TABLE 1 - VOLUME OF CHEMICAL WASTE (continued)

DEPT.	MATERIAL	TRAILERS/TANKS	DEMPSTER BOXES	DRUMS
255	H ₂ O, ØOH, PSA Filter aid BaO, BaCO ₃ , CaCO ₃ #5 oil, BABS, ABSA	756,092	1,000,000 500,000 1,000,000	
236	Spent acid	1,350,000		
237	Spent caustic 50% DCP-50° Penta 12° Cl-phenol	3,150,000 2,250,000		40,000
251	AC1			5,000
283	Contaminated #5 oil			21,600
232	10-30% Gypsum		792,000 dry wt.	
Rip Track	H ₂ O, ØOH, Aroclor	930,750		
273	ODCB, TCB, ONCB	262,700		
246	Montar			180,000
247	Para-phenetidine residue	141,030		206,250
224	M-DCB, TCB		110,000	
223	18% Santosite 50% H ₂ O, 50% ØOH Residue Fusion mass & washings	1,333,328 5,720,000 832,560		
		24,349,310	10,073,470	540,150

B. The cost for hauling and disposal of the chemical waste and trash from W.G.K. during 1970 is given in Table 2.

TABLE 2

COMPANY CONFIDENTIAL

		<u>\$/Year</u>
Hauling -	MCO 0616535	
Trailers		47,014
Dempster tanks, boxes and drums		48,800
Landfill -		
Liquid and drums		29,856
Dempster boxes and trash	K 02043	<u>10,000</u>
		\$135,670

EXHIBIT 5

#9

G

K

I

~~Site~~ Nonspecific

#8

Site P disposal contract

December 15, 1978

BU
1/4/79

Mr. Paul Sauget
Sauget and Company
2700 Monsanto Avenue
Sauget, Illinois 62201

Dear Paul:

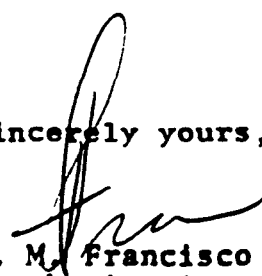
Contract No. 02-03-0563
Agreement for Sanitary Landfill Privileges

Enclosed herewith please find two (2) copies of
subject contract.

Please sign both copies, returning the original to
the writer's attention and keeping the copy for
your files.

Thank you very much.

Sincerely yours,



D. M. Francisco
Purchasing Agent

bp

Enclosures

MCO 0616537

COMPANY CONFIDENTIAL

CONTRACT NO. 02-03-0563RENEWED 1/1/79AGREEMENT FOR SANITARY LANDFILL PRIVILEGES

This Agreement made and entered into as of January 1, 1979, by and between SAUGET AND COMPANY, a Delaware Corporation located in Sauget Village, St. Clair County, State of Illinois, hereinafter called "Sauget" and MONSANTO COMPANY, a Delaware Corporation with General Offices at St. Louis, Missouri, hereinafter called "Monsanto."

WITNESSETH THAT:

WHEREAS, Monsanto operates chemical industries situated in Sauget Village, Centerville Township, St. Clair County, Illinois, and at 1700 South Second Street, St. Louis, Missouri, and desires to dispose of refuse materials from said industries, and

WHEREAS, Sauget is willing to permit the disposal of such refuse by Monsanto on Sauget's Sanitary Landfill upon the terms and conditions hereinafter set out,

NOW, THEREFORE, it is hereby agreed by and between the parties hereto as follows:

1. Sauget agrees as follows:

MCO 0616538

- a) To operate for Monsanto's exclusive use said Sanitary Landfill, located on property leased from Union Electric Company north of Monsanto Avenue and east of the Corps of Engineers Levee between the Illinois Central-Gulf Railroad Track.

COMPANY CONFIDENTIAL

- b) To permit Monsanto to haul to said Sanitary Landfill any or all refuse resulting from the normal operations at Monsanto's Chemical Plants.
- c) To operate said Sanitary Landfill in accordance with the Illinois EPA Rules and Regulations and the operating permit issued to Sauget and Company (#1973-2) on January 11, 1973, by the Illinois EPA.
- d) To allow contractors performing work for Monsanto at its W. G. Krummrich Plant and its J. F. Queeny Plant to haul and dump refuse resulting from such work upon presentation of a permit issued by Monsanto identifying the contractor, the project involved and the term of such project. One permit shall be sufficient for each contractor for each project for the term of such project. Such contractor shall comply with all rules and regulations applicable to said dump, whether promulgated by Sauget or by the Illinois Environmental Protection Agency or otherwise and, in the event that such contractor violates any of said rules and regulations, Sauget may cancel such permit and, if it does so, shall notify Monsanto in writing of such cancellation.
- e) To furnish the services of a dump truck and driver on a not less than forty (40) hour per week basis for the purpose of (1) hauling cover material for the Sanitary Landfill and (2) hauling cinders from the Monsanto Plants for use as cover material and (3)

MCO 0616539

COMPANY CONFIDENTIAL

providing other services as necessary for the proper operation of the Sanitary Landfill.

f) To furnish the services of a bulldozer and bulldozer operator on a not less than forty (40) hour per week basis for the purpose of compaction and covering of refuse deposited on the Sanitary Landfill site.

g) To permit the unloading of the refuse which Monsanto or its contractors hauls to the Sanitary Landfill on a six day per week basis (Monday through Saturday) including Holidays only between the hours of 8:00 a.m. and 4:30 p.m. At all other times the Sanitary Landfill will be closed and padlocked.

h) To maintain the Sanitary Landfill at all times in such condition as to allow the refuse to be freely unloaded without delay.

i) To maintain at all times access for trucks to dump from the nearest improved road.

j) To wash refuse container boxes at the Sanitary Landfill when requested by Monsanto so long as water is available without cost, for use by Sauget.

k) To hold Monsanto harmless from and indemnify Monsanto against any and all liability, loss or expense that might arise by reason of damage to property or crops or injury to person or persons resulting directly or indirectly from the operation

MCO 0616540

COMPANY CONFIDENTIAL

- 4 -

of said Sanitary Landfill from materials deposited therein or from Monsanto's use thereof.

1) To treat as Monsanto's confidential property and not use or disclose to others during or subsequent to the term of this Agreement, except as is necessary to perform the work hereunder, any information (including any technical information, experience or data) regarding Monsanto's plans, programs, plant processes, products, costs, equipment, operations or customers which may come within the knowledge of Sauget or his employees in the performance of the work or which may developed by Sauget in the course of Sauget's performance of the work without in each instance securing the prior written consent of Monsanto. Nothing herein, however, shall prevent Sauget from disclosing to others or using in any manner information which Sauget can show:

- 1) has been published and has become part of the public domain other than by acts of omissions of Sauget or his employees;
- 2) has been furnished or made known to Sauget by third parties as a matter of right and without restriction on disclosure; or
- 3) was in his possession at the time he entered into this Agreement and which was not acquired by Sauget directly or indirectly from Monsanto, its employees or its agents.

MCO 0616541

COMPANY CONFIDENTIAL

Sauget shall restrict the knowledge of all information regarding the work to as few as possible of his employees (and only to those directly connected with the performing of the work) and shall also, upon request by Monsanto, cause such persons involved in the work on Sauget's behalf as Monsanto designates to sign individual secrecy agreements in a form satisfactory to Monsanto.

m) Scavenging Forbidden. Under no circumstances shall any materials or containers which have been delivered to the Landfill by Monsanto for disposal be scavenged or retrieved for reuse or resale. Sauget covenants that it will use its best efforts to assure that this prohibition is reasonably implemented.

MCO 0616542

2. Monsanto agrees as follows:

- a) To pay to Sauget at the end of each month during the year 1979 the sum of Seven Thousand Two Hundred Eighty Two Dollars (\$7,282.00). Sauget to invoice for this amount monthly.
- b) To furnish cinders as they are available from the W. G. Krummrich Plant and the J. F. Queeny Plant. Such cinders are to be used as Monsanto deems necessary in the maintenance of the Sanitary Landfill.
- c) All dumping at said Sanitary Landfill by Monsanto and by its contractors shall be in conformity with any and all rules and regulations applicable to said

COMPANY CONFIDENTIAL

Sanitary Landfill whether promulgated by Sauget or by the Illinois Environmental Protection Agency or otherwise.

3. This Agreement shall commence with the date set forth at its beginning and shall continue for a period of twelve (12) months unless sooner terminated by either party giving to the other party at least ninety days' written notice of the party's intention to cancel same. This notice period is in the event the Illinois Environmental Protection Agency shall prevent either party from continued performance hereunder.
4. Should this Agreement be terminated prior to December 31, 1979, then payment shall be prorated on the basis of Seven Thousand Two Hundred Eighty Two Dollars (\$7,282.00) per month for the year 1979.

IN WITNESS WHEREOF, this Agreement has been executed on behalf of each party as of the day and year set forth at its beginning.

MONSANTO COMPANY

By

Title

Witness

SAUGET AND COMPANY

By

Title

Witness

MCO 0616543

COMPANY CONFIDENTIAL

EXHIBIT 6

bcc: G. F. Knollmeyer - 1760
E. D. Malone - 1760
J. W. Molloy - WGK
L. P. Russe - WGK
W. L. Sullivan - WGK
B. R. Williams - WGK

000050

November 15, 1978

Mr. Paul Sauget
Sauget and Company
2700 Monsanto Avenue
Sauget, Illinois 62201

Dear Paul:

Contract No. 02-03-0563
Agreement for Sanitary Landfill Privileges

This letter is to confirm our phone conversation of November 14, 1978 agreeing that the following paragraph will become part of the terms and conditions of the subject agreement:

1. Sauget agrees as follows:

(e) Sub. 4. Scavenging Forbidden. Under no circumstances shall any materials or containers which have been delivered to the Landfill by Monsanto for disposal be scavenged or retrieved for reuse or resale. Sauget covenants that it will use its best efforts to assure that this prohibition is reasonably implemented.

Paul, thank you for your interest and cooperation in this subject.

Very truly yours,


D. M. Francisco
Purchasing Agent

MCO 0616557

bp

EXHIBIT 7

WASTE DISPOSAL AGREEMENT

This Agreement made and entered into as of the first day of January, 1964, by and between MONSANTO COMPANY, a Delaware corporation, of St. Louis, Missouri, (hereinafter called "Monsanto") and INDUSTRIAL SALVAGE AND DISPOSAL, INC., a Delaware corporation, of 2902 Monsanto Avenue, Monsanto, Illinois, (hereinafter called "Industrial"),

WITNESSETH:

WHEREAS, by an Indenture of Lease of even date herewith Industrial has leased from Monsanto a tract of land of approximately twenty-two acres located near the east bank of the Mississippi River in the Village of Monsanto, Illinois, (hereinafter called the "Leased Property"); and

WHEREAS, Industrial proposes to operate on the Leased Property a sanitary landfill dump (hereinafter called the "Dump") to provide for the disposal of certain chemical waste materials of Monsanto;

NOW, THEREFORE, in consideration of the mutual covenants herein contained and for good and valuable other consideration, Monsanto and Industrial hereby agree as follows:

1. Operation of Dump. Industrial shall operate the Dump on the Leased Property in accordance with the procedures, terms and provisions set forth in the Specifications attached hereto and made a part hereof. Monsanto, at its own expense, shall arrange for the trucking of the chemical wastes from its chemical plants to the site of the Dump, and for the unloading of such wastes at the Dump. Industrial shall furnish and provide all labor and other personnel and all materials and equipment necessary for the proper operation of the Dump. Monsanto shall notify Industrial of the Monsanto employee (hereinafter called the "Engineer") who is authorized to represent Monsanto under this Agreement.

2. Removal of Drums. In connection with its operation of the Dump, Industrial has requested permission from Monsanto to remove and salvage, at Industrial's risk and expense, certain empty metal drums used to transport chemical waste materials to the Dump.

MCO 0616613

Monsanto hereby grants such permission to Industrial on the following terms and conditions:

(a) Industrial may remove from the Dump, at its own risk and expense, such number as it determines of empty metal drums that Monsanto's Engineer designates to be surplus drums, but solely for the purpose of selling the same to reputable steel scrap companies as scrap metal or to reputable salvage companies for cleaning and reclaiming. Industrial shall not sell or otherwise dispose of any of said drums to any other person, firm or corporation, and shall not remove any of said drums from the Dump for any other purpose.

(b) Any drums that are removed from the Dump by Industrial shall be removed by the end of the working day during which they are received at the Dump. Any drums not removed by Industrial pursuant to paragraph 2(a) above shall be crushed and buried by Industrial in the Dump.

(c) Industrial has been informed that the drums have been used for the storage of chemical wastes and of the possible hazards connected therewith. Industrial hereby acknowledges that it assumes responsibility for the further handling and use of the drums removed from the Dump. Industrial shall take all necessary precautions to insure that the removal and disposition of such drums, and the subsequent handling and disposition of such drums by any such steel scrap or salvage company, will not endanger the safety of, or constitute a hazard to any persons or property. Industrial further agrees to notify in writing each steel scrap or salvage company to which it may sell any of said drums of such prior use of said drums, and will attempt to obtain a similar agreement from said company that it will take necessary safety precautions and that it will warn subsequent handlers and users of the drums.

(d) Monsanto shall have the right at any time to cancel, or suspend for a specified period of time, such permission by giving at least two days' prior written notice to Industrial.

3. Price. In full payment for Industrial's entire performance of its work under this Agreement, Monsanto shall pay to Industrial each month the sum of Three Thousand Dollars (\$3,000.00).

4. Payment Procedure. Invoices for the monthly payment shall be submitted to the Engineer by Industrial on or about the first day of each month. The invoices shall be in such form and supported by such evidence as the Engineer may direct, including evidence satisfactory to the Engineer that all payrolls, materials bills and other indebtedness connected with the work under this Agreement to date have been paid. Within ten days after receipt of such invoice in proper form, Monsanto shall pay to Industrial the amount due for the preceding calendar month.

5. Safety and Miscellaneous Provisions.

(a) Industrial shall strictly comply with all safety provisions set forth in the Specifications. Industrial shall take all other necessary steps and precautions for the safe operation and maintenance of the Dump. Industrial shall cause all gates in the fences erected on the Leased Property to be closed and securely locked at all times except during such periods as Industrial shall be conducting operations at the Dump.

(b) In operating the Dump, Industrial shall observe and comply with all applicable Federal, State and local laws and regulations.

(c) In operating the Dump and performing its work under this Agreement, Industrial shall be an independent contractor and shall have complete control of all of its employees and operations. All personnel employed by Industrial shall be employees of Industrial and not of Monsanto, and Monsanto shall have no right to direct or supervise such personnel.

(d) Monsanto and Industrial agree that, in the event of changes in the wage rates of Industrial's personnel or the premature need for replacement of Industrial's equipment employed on the work under this Agreement, either party shall have the right to renegotiate the Price specified herein on the

MCO 0616616

anniversary date of this Agreement by giving to the other party at least thirty days prior written notice of its desire to renegotiate.

6. Indemnity Provisions. Industrial shall defend, indemnify and hold harmless Monsanto from and against any and all liability, claims, causes of action, suits, judgments, fines, penalties, losses, damages, costs and expenses of whatever kind or character arising out of injuries to or the death of any person or damage to or destruction of any property, caused by or resulting from or connected with (a) the maintenance or operation of the Dump unless caused by the sole negligence of Monsanto, or (b) the removal or disposition by Industrial of drums from the Dump or other activities of Industrial pursuant to this Agreement.

7. Insurance by Industrial. Industrial shall take out and maintain, during the term of this Agreement and for such period thereafter as Monsanto shall specify upon termination, the following insurance:

(a) Workmen's Compensation and Occupational Disease Insurance in an amount equal to the limit of liability and in the form prescribed by the laws of Illinois for all of Industrial's employees engaged in work in connection with the operation of the Dump and the removal and disposition of drums. To the extent that any such employees are not protected by such a statute, Industrial shall also provide Employer's Liability Insurance in an amount not less than \$100,000 for injury to, or for the death of, any one employee, and subject to the same limitation for each employee, in an amount not less than \$300,000 on account of any one accident.

(b) Public Liability Insurance covering claims for injuries to or death of persons or damage to or destruction of property arising from the maintenance or operation of said Dump or the removal and disposition by Industrial of said drums, whether such operations be by Industrial or any person directly or indirectly employed by Industrial, and covering liabilities assumed by Industrial pursuant to paragraph 6 above. The

amount of such insurance shall be not less than:

(i) \$150,000 for injury to, or for the death of, any one person; and, subject to the same limitation for each person, in an amount not less than \$500,000 on account of any one accident; and (ii) \$100,000 for damage to property on account of each accident, or \$200,000 in the aggregate in respect of damage to property.

(c) Automobile Public Liability and Property Damage Insurance covering all owned or rented automotive equipment used by Industrial in the performance of this Agreement. Such liability insurance shall be in an amount not less than \$100,000 for injury to, or for the death of, any one person, in an amount not less than \$300,000 on account of any one accident. Property damage limits with respect to such insurance shall be not less than \$50,000 for each accident.

Such insurance shall be in form satisfactory to Monsanto and Industrial shall furnish to Monsanto certificates of such insurance satisfactory to Monsanto. Each contract of insurance shall contain the following clause:

"No reduction, cancellation or expiration of the policies providing the above coverages shall become effective until ten days from the date written notice is actually given to Mr. B. B. Byrne, Purchasing Agent, Monsanto Chemical Company, Wm. G. Krummrich Plant, Monsanto, Illinois."

All policies of insurance shall be countersigned by a duly authorized and accredited agent, or agents, of the carrier residing in the State of Illinois. All insurance shall be carried with insurance companies which, in the case of mutual companies, have a surplus to policyholders in excess of one million dollars (\$1,000,000) and in the case of stock companies, which have total capital and surplus in excess of one million dollars (\$1,000,000).

8. Term and Termination. This Agreement shall commence as of the date first hereinabove written and shall expire on December 31, 1963 unless sooner terminated, as it may be at any time, by either party giving at least ninety days' written notice to the other party of its intention to terminate. A termination of this Agreement shall not relieve Industrial of its obligations as set forth in paragraphs 6 and 7 above.

9. Prior Negotiations. This Agreement and the Indenture of Lease of even date herewith sets forth the entire agreement of Monsanto and Industrial with respect to the subject matter hereof. This Agreement shall supersede the Agreement dated November 1, 1959 between Monsanto and Industrial. All prior negotiations regarding the subject matter hereof shall be deemed to be merged herein.

IN WITNESS WHEREOF, Industrial and Monsanto have each caused this Agreement to be executed by its duly authorized representative as of the day and year first above written.

MONSANTO COMPANY

By /s/ B. B. Byrne P.A. /u/ PSP

INDUSTRIAL SALVAGE AND DISPOSAL, INC.

By /s/ Paul Sanget Sec.

SPECIFICATIONS

OPERATION OF
SANITARY LANDFILL DUMP
W. G. KRUMMRICH PLANT
MONSANTO COMPANY
MONSANTO, ILLINOIS

Prepared By
Functional Maintenance Department

MCO 0616620

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Cover Page

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Section B - Supplementary Conditions

B-1 thru B-5

Section C - Drawing List

C-1

SECTION AOperation of Sanitary Landfill DumpA. Scope

1. The work to be performed is the operation of a Sanitary Landfill Dump on the River Terminal property owned by Monsanto and leased to Industrial by an Indenture of Lease dated as of January 1, 1964.

B. Location

1. The dump is to be located South of Riverview Avenue and East of Monsanto's river front tank farm. This location is as shown on Drawing D-017-G10.

C. Equipment

1. Industrial shall furnish all equipment necessary for the operation of the Sanitary Landfill Dump. This includes the operation and maintenance of such equipment.

D. General Operating Instructions

1. The materials to be encountered in the operation of the dump will fall within two groups, i.e., solids and liquids. To facilitate unloading operations within the dump site, the groups shall be separated according to group and unloaded in areas designated by the Engineer.

Liquid materials shall be discharged onto levelled receiving areas approximately 30 feet wide by 120 feet long. These areas shall be enclosed on all four sides by a retaining wall of cover material. The liquid shall then be blended and compacted with sufficient cover material to produce a stable fill. The area shall then be levelled and the retaining walls adjusted to receive the next load of liquid waste.

Solids, i.e., drummed solids and granular materials, shall be deposited in the designated area, covered and compacted. Drums are to be punctured before compacting into the fill.

It shall be understood that occasional tests or trials may become necessary as new types of wastes and new methods of operations are introduced. If such tests indicate a revision in operational procedure the revision will be adopted as directed by the Engineer.

MCO 0616622

2. Cover Material. Cover and filling material will be secured from the Krummrich Plant Power Department or the fly-ash ponds south of Monsanto's present tank farm area. Material will be trucked to the dump and stored as directed by the Engineer.
3. Appearance and Scavenging: It shall be necessary to keep the dumps smooth and neat in appearance at all time. No scavenging shall be permitted except with the permission of Monsanto's Engineer.
4. Fire Protection: Hose lines shall be provided at the dump at all times. It shall be necessary to wet down the dump to control fires and dust. The hose lines shall be connected to the fire hydrants in the River Terminal Area.
5. Use of Dump: This dump shall be operated by Industrial for the sole use of Monsanto.

SECTION B

MONSANTO COMPANY

SUPPLEMENTARY CONDITIONSA. General Provisions1. Job Site Location

Monsanto Company, William G. Krummrich Plant, Monsanto, Illinois.

2. Definitions

The word "Engineer" as used throughout the Specifications means the individual employed by Monsanto and authorized by Monsanto to represent it on this work.

3. Responsibility

In all operations under the Agreement, Industrial shall respect, adhere to and comply with all local and general ordinances and laws controlling or limiting in any way actions of those engaged upon the work.

Industrial shall secure and pay for all permits and licenses required by the laws in effect at the time of the execution of the work. Industrial, however, shall notify the Engineer of his intent to secure such permit or license prior to making application to enable Monsanto to determine if such permit or license is actually required under the law.

Any person employed on the work who shall neglect to obey the regulations imposed by Monsanto or who shall be deemed to be incompetent, or shall be guilty of any disorderly conduct or shall commit any trespass on any public or private property in the vicinity of the work, shall be at once removed from the work by Industrial, when so requested by the Engineer.

Industrial shall at all times enforce strict discipline and good order among its employees, and shall not employ on the work any unfit person or anyone not skilled in the work assigned to him.

4. Interference with Plant Operation

MCO 0616624

Industrial shall confine its activities to the areas set aside for it to do its work and shall not interfere with any of Monsanto's activities. Unless specifically authorized by the Engineer, Industrial's employees are prohibited from

entering any plant area except those areas to which they are assigned. Prohibited areas for Industrial's employees include operating departments, washrooms, maintenance shops, offices and cafeterias.

5. Cameras

Both taking of pictures and the possession of a camera in the Plant are prohibited.

6. Monsanto Equipment

Monsanto equipment will not be loaned to Industrial's employees.

B. Special Provisions

1. Storage of Material

The receipt and storage of Industrial's materials (not furnished by Monsanto) will be the responsibility of Industrial. Outdoor storage space will be available to Industrial but it will not be permitted to store material except within the areas indicated on the plans or as directed by the Engineer.

2. Telephone

Telephone service, if desired, must be arranged and paid for by Industrial.

3. Toilet Facilities

Job toilet facilities may be provided by Industrial. These facilities shall be constructed and used in a manner that will not violate any sanitary regulations or cause any inconvenience or nuisance to Monsanto or its employees. The type of toilet facilities provided by Industrial will be subject to the approval of the Engineer. No facilities are available on the River Front Property.

4. Water

Industrial will furnish suitable drinking water for its personnel. Drinking water is not available on the River Front Property.

C. Safety Provisions

All work or operations must conform with established Monsanto practices in order to insure the maximum in safety and fire precautions. Information concerning such practices in each area will be secured from the Engineer.

All safety and security regulations of Monsanto's Wm. G. Krummrich Plant shall be observed without deviation by all of Industrial's employees. Some of these regulations are listed below.

1. Smoking

Smoking is prohibited in the Plant except in designated posted smoking areas at which locations electric lighters are provided. Having possession of matches or lighters is prohibited. At the discretion of Industrial smoking time may be allowed the workmen but they shall extinguish butts in sand buckets or containers provided before leaving the smoking area.

2. Aisles and Exits

Aisles, safety showers, fire equipment, alleys, streets and exits must be kept free of obstructions.

3. Excavations; Overhead Work

Industrial shall provide all guards, barricades, lights, etc., necessary for the safety of Plant operations and personnel.

All excavations shall be barricaded each time Industrial's workmen quit for the day. Openings, ditches, etc., must be roped off and danger signs placed. Adequate danger lighting must be provided at night.

4. Traffic Rules

- a. The speed limit is 15 M.P.H.
- b. Vehicles shall stop at all stop signs.
- c. Vehicle and equipment operators shall observe all railroad crossings and switch signs and follow the instructions on them.

5. First Aid

First-aid and emergency treatment for all injuries incurred by Industrial's employees should be received at Monsanto's Dispensary. Industrial shall promptly notify the Engineer of any injury to Industrial's employees and shall assist the Engineer in filling out the Accident Report Form for the Safety Department of Monsanto.

6. Fire Protection

Industrial shall, in all of its operations, conform to all fire regulations in effect for the Wm. G. Krummrich Plant. He shall do no burning, welding, grinding or any other flame or spark-producing operation, operate equipment of any kind or proceed with any work requiring the use of the inflammable substances (such as gasoline, kerosene, paint thinners, or any liquids with closed-cup flashpoint below 110°F.) without first securing a Monsanto fire permit and complying with the conditions and instructions specified thereon. The permits required will be supplied by the Engineer.

Should a hazardous condition develop in the area, Industrial shall, at the request of any Monsanto employee, stop all cutting, welding or other spark-producing activities.

7. Fire

Industrial shall familiarize all personnel working directly or indirectly under him with the following rules to be followed in case of fire:

- a. To report a fire -- go to any plant telephone, dial Station 200 and give the designation of the building or area in which the fire is located.
- b. If the fire alarm (siren) sounds while personnel are driving in the Plant, they shall pull over to the side of the road and stop.
- c. Visiting at the scene of a fire or accident by personnel other than members of fire or emergency crews is prohibited.
- d. In case of a fire on the job site for which the Fire Department is called, all personnel other than Industrial's supervisors shall immediately leave the area. The supervisors shall keep themselves available to assist the Fire Department.

8. Industrial Hazards

Industrial shall acquaint itself with the industrial hazards, if any, to be encountered in each particular area. Information pertaining to such hazards shall be obtained through the Engineer.

MCO 0616627

9. Pipes

Process piping shall never be used either to support an individual worker or to support staging. If it becomes necessary for a ladder to be leaned against a pipe to accomplish some work, permission of the Engineer shall first be secured.

10. Wiring

No wiring should be cut without consulting the Engineer. Any wire accidentally broken should be reported immediately to the Engineer or Monsanto's Electrical Foreman.

11. Clean-Up of Job

Industrial must keep the area of its work clean and promptly remove any excess materials or equipment.

12. Use of Intoxicants

Persons judged to be under the influence of intoxicating beverages will not be admitted into the Plant. The carrying of intoxicating beverages into the Plant is prohibited. Violation of this regulation will result in immediate and permanent removal of the employee from the Plant property.

13. Railroad Clearances

When it is necessary to work adjacent to a switch track, care must be taken that equipment and material do not encroach on the clearance area required by law. This is 8'6" on both sides of the track. Overhead clearance is 22'6" above top of the rail. All equipment and materials must be removed from these clearances at the end of each work day unless arrangements have been made to the contrary.

MCO 0616628

SECTION CDrawing List

The following drawing has been prepared by the Organic Chemicals Division of the Monsanto Company:

<u>DWG.</u>	<u>REV.</u>	<u>DATE</u>	<u>TITLE</u>
D-017-G10	0	3/31/59	River Terminal Sanitary Landfill Dump

MCO 0616629

EXHIBIT 8

MONSANTO CHEMICAL COMPANY

Inter-Office Correspondence

FROM LOCATION : WGK
 DATE : September 2, 1960
 SUBJECT : Sanitary Landfill
 Operating Supervision
 REFERENCE :

cc: R. J. Stratmeyer
 R. W. Kraft
 C. N. Stutz

000162

TO : G. W. Hamilton

The first part of August we agreed that you would take over the Operating Supervision of the Sanitary Landfill early in September. Please, let us know your selection of supervision and date we can start training.

The attached "Procedure for Operating Sanitary Landfill" and personal instruction from Ron Kraft should be adequate training for the person whom you may select. After your man is trained, Ron will give operational advise as needed from time to time.


 L. W. Sprandel

/ls

Att: 4 copies - Procedure for Operating
 Sanitary Landfill

~~Non-specific~~
 Non-specific $(K+E)^{15}_A$

II

Site R

1

MCO 0616676

Guidelines for operating

PROCEDURE FOR OPERATING
SANITARY LANDFILL

WM. G. KRUMRICH PLANT
MONSANTO CHEMICAL COMPANY
MONSANTO, ILLINOIS

MCD 0616677

Prepared By
Plant Improvement and Engineering Dept.
August 1960

K00053

PROCEDURE FOR OPERATING SANITARY LANDFILLPurpose:

The purpose of this procedure is to give Monsanto's supervision the basic ideas behind the running of the Sanitary Landfill. These ideas are based on past experience obtained by the Plant Improvement Engineering Department of The Wm. G. Krummrich Plant.

The purpose of the Sanitary Landfill is to furnish to the Wm. G. Krummrich Plant, the J. F. Queeny Plant and to the General Offices a safe place to dispose of their toxic waste materials. At the same time, we will run this dump in orderly and neat manner so the area may be reclaimed for future expansion as the Landfill becomes filled.

Operating Instructions:

The waste materials encountered in the operation of the dump will fall into two categories, i.e., solids and liquids.

Liquid Materials:

Liquid materials are disposed of in soaking ponds 125 feet by 30 feet. These ponds are constructed as level as possible to give a uniform depth of liquid waste. The ponds are enclosed on all four sides by a retaining wall of fill material.

The liquid is discharged into the pond, allowed to cool and crystallize, then blended and compacted with sufficient fill material to produce a stable fill.

The average liquid waste requires a ratio of 3:1 to 5:1 fill to waste. However, if the liquid crystallizes then a ratio of only 1:1 is required.

An intermingling of liquid waste has been necessary during the operation of the Landfill. These intermingled wastes exhibit little or no crystallizing properties. Therefore, materials should not be mixed indiscriminately.

After the waste is blended with fill and compacted the area is levelled and the retaining walls adjusted to receive the next load of liquid waste.

Four or five ponds should be in operation at all times. The ponds should be accessible on at least two sides preferably three. This will allow the drivers to discharge the waste chemicals without danger of the wind blowing toxic fumes back on them.

MCO 0616678

K00054

The Landfill should be planned to be filled from the northwest corner to the southwest corner, i.e., the area on the northwest corner should be filled in first. This will allow rain water to run off of the landfill and will enable the northwest corner to be used for expansion first. However, this does not mean to just fill the northwest corner and leave the rest of the dump at its present level. The rest of the dump should be filled but it should remain at a lower elevation than the northwest corner.

Solid Material:

Solid material, i.e., drummed solids and granular materials should be deposited in the designated area, covered and compacted. Granular material can be deposited in the same manner and area as the liquid material. Drummed solids should be deposited in an area away from the current liquid operation. The drums should be arranged to save space and deliver maximum ground area without stacking. They are then perforated, crushed by walking on them with the tractor, and then covered with fill material. In some cases the tractor operator should wear safety glasses and face shield when performing this operation. If the drums are not perforated they will be more difficult to crush and present a hazard to the tractor operator. (They may break and splash liquid on him.)

Fill Material:

The fill material presently being used is cinders from the Wm G. Krummrich powerhouse. In the past, flyash from the Union Electric flyash ponds, south of the Landfill, was tried. This flyash has been deemed unsuitable because of its poor absorption and compaction qualities. It requires 50% more flyash to approach the WGC cinders. To use flyash at this time would require a hauling problem. It would require approximately four hours per day of tractor time to dig and load flyash to be used as fill. This would allow the tractor operator only one-half the present time to build and fill soaking beds. Another factor in using flyash is it would produce a dust problem because of its small particle size. However, this could be overcome by wetting the flyash.

Special Handling:

The following materials have to have special handling:

ONCB - Orthonitrochlorobenzene - This material is extremely toxic. During the winter months it is delivered in tank trucks, poured into ponds and allowed to crystallize. It should not be blended with fill until it is crystallized. During the summer months this material will not crystallize. It must either be stored or delivered to the dump in drums. When delivered in drums it must be solid. If the drums are buried immediately the ONCB will remain solid and no problems arise.

EXHIBIT 9

(A continuation of Exhibit 8)

Phosphorous - This material burns upon contact with air. The fumes are toxic. Phosphorous must be buried outside of the fenced area. If buried inside of the fenced area it may ignite the other materials deposited in the dump. There is no danger as long as the phosphorous remains covered, however, if it becomes uncovered at a later date it will ignite.

Waste from Dept. 262 - This material is unusually difficult to blend. It requires ratios of 15:1 to 20:1 to blend, even then the fill lacks an acceptable soil bearing condition. Presently, this condition is being corrected by the Department and in the future this material should be easier to handle.

P₂S₅ - This material should be disposed of outside of the fenced area. It should be dumped and then buried. This material will decompose in about one year and will not cause any future problems.

Other Materials - Other materials both from the Krummrich Plant and the Queeny Plant are handled on routine basis. The tractor operator should direct the disposing of these waste. On occasion some materials coming from the General Office requires special handling. However, before these materials arrive someone from the department sending them will inform you how to dispose of this material and what special precautions should be taken.

Test Wells:

There are five test wells located around the landfill. These wells are used to determine if the underground water is being contaminated by percolation of ground water through the overburden. These wells should be sounded and tested on a monthly basis. In the future, we may reduce this requirement to a three month period.

The wells are sounded by lowering the end of a M-Scope into the well until a current is indicated on the amp meter. The depth of the well water can then be determined by reading the depth off of the cord which was lowered into the well. There are two M-Scopes located in the office of the power house.

The well water is tested by lowering a "thief" into the well and bringing up a sample of water. One 1/2 gal. bottle of water is enough of a sample from each well. The sample should be taken to the laboratory and tested for COD, Sulfates, PH, Dissolved Iron, Extractable Organics, Chlorides, and Phenol.

The results of these tests should be forwarded to the Plant Improvement and Engineering Dept.

Contractor:

MCO 0616680

The physical operation of the Landfill is contracted to Industrial Salvage and Disposal Corporation. Contact Paul Sauget Bridge 1-4839.

Payment:

Industrial is paid monthly on the following basis:

- a. Wages of field personnel employed by Industrial at rates not higher than the standard being paid in the locality.

K00056

- b. Materials, supplies, and hand tools consumed by Industrial in operating the Landfill.
- c. A fixed payment of \$445.25 per month to amortize Industrial's cost in purchasing a tractor and dump truck.
- d. The cost of operating and maintaining the tractor and dump truck used by Industrial in operating the Landfill.
- e. Premiums on insurance policies required by the waste disposal agreement.
- f. Other cost and expenses incurred by Industrial with prior written approval of Monsanto's supervision.
- g. A fee of 15% on all of the above expenses except Item c.

Processing Payment:

The monthly statement from Industrial will be submitted to Monsanto on or about the third Friday of each month. This statement will show the fixed payment and the reimbursable costs. In addition to this statement Industrial shall furnish supporting invoices and payroll records. This statement should be processed as soon as possible using the following outline:

- a. Check Industrials' statement to make sure it is free of errors so payment can be made as soon as possible.
- b. Charge 57% of the bill to account 2-03-907.27-804 (Wm. G. Krummrich Plant.)
- c. Charge 2% of the bill to the General Office account 1-00-605.04 53.
- d. The other 41% is allocated to several different J. F. Queeny accounts. The breakdown of this 41% is supplied by Mr. Miner of the Queeny Plant. The account number is 2-01-xxx.xx-847. The five x's are supplied by Mr. Miner.

This information will be printed on the front of Industrial's statement and given to the purchasing department.

Non-Toxic Wastes:

Non-toxic wastes are not deposited in the Sanitary Landfill. They are dumped in Leo Sauget's dump. The Landfill is reserved only for toxic and liquid materials.

MCO 0616681

Estimated Life:

Estimated life of the Landfill is between seven and ten years. With the present amount of waste, the Landfill should last about nine years. The Landfill is situated on a 22-acre track and has a usable volume of 405,000 cubic yards to fill.

Conclusion:

The Landfill is just getting out of the experimental stages where it can be a self-sustaining operation. There may be from time to time a need for some changes in the method of operation as outlined herein.

However, this procedure will be followed exactly unless specific instructions are given by the Plant Improvement and Engineering Department. No other agency either within the Krummrich Plant or outside of this plant will be followed without prior approval of the Plant Improvement and Engineering Department.

Ronald W. Kraft

/ls

MCD 0616682

K00058

EXHIBIT 10

Monsanto

000174

FROM (NAME & LOCATION) Robert L. Harness - William G. Krummrich Plant

DATE October 27, 1975 CCI P.E. Heisler
C.F. Buckley
SUBJECT ILL. EPA INSPECTION OF LANDFILL M.R. Foresman
J.C. Smith
REFERENCE Memo Oct. 10, 1975 R.L.H. to B.R. Williams
R.W. Flint, et.al. J.F. Nemeth
TO R.W. Flint
A. Gallion
P.S. Park
D.B. Hosmer
M.A. Pierle

As outlined in the above referenced memo, the Illinois Environmental Protection Agency followed their landfill site inspection with a plant visit to W.G.K. On October 24, 1975, Dale Montgomery of the Collinsville Land Pollution Control Surveillance Office, and Mark Taylor of the Springfield Land Pollution Control Section visited W.G.K. to discuss two items:

- a) A list of materials being disposed of in the chemical landfill.
- b) Landfill operation and control procedures.

In answer to their inquiries, I supplied them with a list of landfill materials, (reviewed by Corporate Law and MICC Environmental Protection), and verbally described a) our screening process involving corporate medical to determine which items are suitable for landfill; b) our procedures for transporting materials from the plant to the landfill; and c) our control measures to insure that only approved materials go to the landfill.

Their response to the above was as follows:

- a) In reviewing the list, both Mr. Montgomery and Mr. Taylor stated that they did not recognize any material of an obviously hazardous nature. Mr. Taylor was present specifically for this reason.
- b) They seemed quite satisfied with our procedure for determining which materials are "non-hazardous", and consequently approved for landfill.
- c) They likewise seemed satisfied with our security procedures, and with our ability to control the use of the landfill to approved items only.
- d) Mr. Montgomery stated that the Illinois EPA was actively working to prohibit landfill operations in Mississippi River flood plain areas. Despite his initial observation that our landfill wastes

MCO 0616692

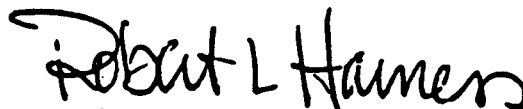
seemed "non-hazardous", he stated that the Agency would "probably" officially notify us that we were being cited for disposal of hazardous wastes in an un-authorized (no permit issued) site, and furthermore that they would under no circumstances issue a permit for this site. To this I replied that Monsanto had reviewed each item on the landfill list in detail to insure that it was "non-hazardous", and would not prohibit us from operating the landfill under the permit exclusion clause in the Illinois Act.

- e) Mr. Montgomery offered to discuss alternate landfill sites which would be acceptable to the Illinois EPA. We agreed that this would be best done at a later date.
- f) The EPA will be collecting water samples from the landfill test wells on Tuesday, October 28, 1975. This has been done on several other occasions.

The meeting ended on a positive note. Mr. Montgomery stated that he would review our situation, and discuss his decision with me prior to taking any action. He told me that no "crash program" would be enforced on us, but did not indicate any timing for activity on their point. He was very inconclusive at this point, and led me to believe that he was giving equal thought to approving our present operations.

At this point, I recommended that we continue to operate the landfill as we are presently doing, and take no action until further notice by the EPA.

Let me know if you have questions.



Robert L. Harness
Environmental Control
Wm. G. Krummrich Plant

/db

MCO 0616694

CONFIDENTIAL

000176

WASTE MATERIALS DISPOSED OF AT MONSANTO/SAUGET LANDFILL SITE

1. Stabilizer Residue
 - 50% Aromatic Tars
 - 50% Inorganic Iron and Sulfur Compounds
2. Spent Vanadium Catalyst
3. Vacuum Distillation Residue
 - 90% Aromatic Tars
 - 5% Potassium Chloride
 - 5% Potassium Carbonate
4. Phosphate Ester Residue
 - 70% Polymerized Phosphate Ester
 - 18% Organic Tars
 - 12% $MgCl_2$
5. Dry Bleach - Scrap Product
6. Phosphorus Pentasulfide - Scrap Product
7. Spent Activated Carbon
8. Sludge from chlor-alkali sulfide treatment system,
and gyp from brine treatment.
9. Filter Mud
 - 83% Lime
 - 15% Dicalite Filter Aid
 - 2% Dye Residue
10. Still Residue
 - 30% Phenacetin
 - 60% Organic Tars
 - 10% P-chloracetanilid

MCO 0616695

11. Still Residue
 - 40% Methyl Salicylate
 - 20% Organic Tars
 - 40% Hydroxy Isophthalate
12. Asprin Powder Scrap
13. Process Residue
 - 85% Sulfones
 - 15% Toluene Sulfonyl Chloride
14. Process Residue
 - 100% Toluene Sulfonamides
15. Filter Cake
 - 97% Carbon
 - 3% Organics
16. Still Residue
 - 20% Iso-Ethavan
 - 30% Ethavan Dialdehyde
 - 50% Organic Tars
17. Process Residue
 - 17% Zinc Chloride
 - 83% Phthalylchloride Fractions
18. Filter Cake
 - 50% Filter Cake
 - 20% Carbon
 - 20% Alumina
 - 10% Solka Flock
19. Filter Cake
 - 50% Dicalite Filter Aid
 - 50% Plasticizer

MCO 0616696

20. Filter Cake

50% Santicizer 8
48% Dicalite Filter Aid
2% Carbon

21. Process Residue

80% Benzoic Acid Residue
20% Organic Tars

22. Process Residue

50% Polyethylene Glycol
40% Trimethoxy - Benzaldehyde

23. Santolite MS or MHP

Scrap Product

EXHIBIT 11

000179

Robert L. Harness, William G. Krummrich Plant

cc G. A. Hippe/P. E. Heisler/
P. B. Hodges/C. F. Buckley

REFERENCES

TO : Dr. Frederick R. Johannsen

Per our telephone conversation of June 4, I am sending you the following samples of wastes inteded for disposal at the Sauget toxic landfill.

1. PNA filter mud (one sample jar)
composition: 83% $\text{Ca}(\text{OH})_2$
15% Dicalite (filter aid)
2% Para Nitro Aniline
2. GYP and Sulfide Sludge (two sample jars)
composed of mercury sulfide from the in
plant treatment process. The samples I
am sending have not been dewatered. We
plan to dewater the sludge by filtration
before landfilling in the future.
3. Stabilizer Residue (one bottle) MCO 0616698
composition: 30% Fe Cl_3
20% Sulfur
50% Chlorinated Benzene
4. S-140 Residue (one bottle)
composition: complex phosphate ester with some
crescyllic acid and Mg Cl_2 . This
is not the same as the TPP residue
analyzed previously.

We also plan to landfill a residue called Orthene Still bottoms, but a sample will not be available for several months. This material will be similar to the Stabilizer residue above, in that it will be primarily chlorinated benzene tars. I'll get a sample for you as soon as it is available.

Finally, as we discussed, I am not sending samples of the following chemical wastes which in composition are essentially identical to their final product form:

1. ACL scrap material (mostly ACL 66 and 85 that has become contaminated with dirt, grease, etc.)
2. Phosphorous Pentasulfide (scrap material that has been spilled during manufacturing).

K 02048

June 4, 1974
Page two

Dr. Frederick R. Johannsen

3. Spent Carbon (carbon from a filter bed used to remove trace impurities including mercury, from a hydrogen gas stream).

Let me know if you still feel we have adequate toxicity information on the above.

Thanks for your help. Let me know if you need further information.

Bob

Robert L. Harness
Environmental Control
Group

RLH:ejh

MCO 0616700

K 02019

EXHIBIT 12

FROM NAME & LOCATION J. F. Nemeth - J. F. Queeny Plant

DATE July 19, 1974

cc M. J. Smid
A. E. Peterson
D. C. MalmCHEMICAL WASTE FOR SAUGET LANDFILL

TO : Robert L. Harness - WGK

This memo confirms our telephone conversation relative to the verbal approval given by Dr. Frederick Johannsen of the Medical Department on 7/19/74 for the disposal of the following JFQ wastes at the present time to the Sauguet Landfill.

- 7/22 ✓ 310 Phenacetin Residue
- 7/22 ✓ 316 Methyl Salicylate Residue
- 7/22 ✓ 319 Aspirin Powder
- 7/22 ✓ 335 TSCI Residue
- 7/22 ✓ 336 Tech. Amides
- 7/22 ✓ 343 Refined Amide Filter Cake
- 7/22 ✓ 354 Ethavan Still Residue
- 7/22 ✓ 373 Benzoic Residue
- 7/22 ✓ 389 TMB Residue
- 7/22 ✓ 389 Sant. IHP or MS
- Lab solid waste

We are awaiting the completion of tests for approval to dispose of other wastes.

J. F. Nemeth

:mj1

8/21/74

DPP Filter Cake
Vanadium Catalyst
Sant. B Res. Filter Cake
Sant. B Sp. Filter Cake
Methyl Cl Still Res.
OSSA Filter Cake

MCO 0616701

K00068

EXHIBIT 13

Breakdown of Waste Handled at Krummrich's Sanitary Landfill Operation
(Cu. Yds./Year)

<u>Queeny</u>	<u>Combustible Liquids</u>	<u>Combustible Solid</u>	<u>Non-Combustible Liquid 85-90% H₂O</u>	<u>Non-Combustible Chemical Solids</u>	<u>Non-Combustible Trash</u>
	3010	2406		370	0
<u>Krummrich</u>					
	80 (drummed)	(120) (drummed)		50 (drummed)	Unknown
	3500	4728		1332	
		(Dumpster, 50% combustible)		(Dumpster)	
		6700	36,648		
			(diluted phenolic waste)		
	6590	13,954	36,648	1752	
<u>Research and General Offices</u>					
	255 (drummed)				

Total Cu. Yds. to be Disposed = 59,289 Cu. Yd./Year

K00026

000195

TABLE 2
SOLID WASTE CHARACTERIZATION
MATERIAL IN DRUMS

MCO 0616725

DEPT	Volume Gal/Mo.	Drums/Mo.	Lbs/Mo.	Combustibles lbs/mo.	Viscosity "Ambient"	pH	Composition	Toxic
Lab		65		1,000			Samples, Bottles, glass	Yes
283	1650	30	16,500	16,500	Solid		Oil Additives	No
236	1100	20	10,000	9,500	Liquid		DCP, Penta	Yes
266	770	14	6,000	600	Liquid		P ₂ S ₅ , H ₂ O	Yes
250		12	6600		Solid		P ₂ S ₅ , P, Phos- phorus Mud	Yes
251		10	2,500		Solid		AC1	Yes
222		7	4,000	3,600	Solid	Acid	ONA Residue	Yes
254	220	4	2,000	2,000	Liquid		TPP, Phenol	Yes
217	55	1	500	500	Liquid		DCP, Biphenyl Aroclor	Yes

107,680 gal/yr. 163

8,900,000 lb/yr.

K33027

A-1

000196

TABLE 3
SOLID WASTE CHARACTERIZATION
MATERIAL IN DUMPSTERS

MCO 0616726

DEPT	Volume		Combustibles lbs/mo.	Viscosity "Ambient"	Composition	Toxic
	lbs/mo	c.y./mo				
232	255,000	65		Solid	gyp	No
258	180,000	115	90,000	Solid	dicalite,ABSA	Yes
270	150,000	150	75,000	Solid	dicalite,S-290, No.5 oil,M-5393	Yes
257	90,000	84	45,000	Solid	Clay, SAB	No
275	70,000	45	36,400	Solid	PBSA, S-900	Yes
222	37,500	20		Solid	Ca(OH) ₂ ,dicalite	No
266	35,000	26		Solid	dicalite,ZnO	No

817,500

505

171,400

65

K00028

A- -2

000197

TABLE 4
SOLID WASTE CHARACTERIZATION
CONCENTRATED LIQUID WASTES

MCO 0616727

DEPT	Volume Gal/mo.	Combustibles Lbs/Mo	Viscosity "Ambient"	pH	Composition	Toxic
273	38,430	365,000	Solid	8.0	ODCB - 32% TCB - 24% ONCB - 37%	Yes
267	4,500	33,750	<i>Tetra Chloro Benzene</i>		TCP - 25% Dimer - 50%	Yes
223	36,000	270,000	Liquid	8.0	<i>50% Chlorinated To, H.O.</i>	
	49,500	125,000	Semi-solid	7-10	Phenol, NaBs, Sulfones, High Boilers	Yes
	150	750	Liquid	0-2	Benzene, H ₂ SO ₄	Yes
	6,000	12,000	Slurry	9-14	Phenol, NaBS NaOH	Yes
262	45,000	382,500	Solid	Acid	Chlorophenol, H ₂ SO ₄ Acetic	Yes
268	250	2,250	Solid		Alcohol, esters tar	Yes
233	1,000	7,000	Semi-Solid	6	S, FeCl ₃ , chlori- nated benzene	Yes
248	1,725	6,900	Liquid		Cresol, High Boilers	Yes
New	8,050	70,700	Solid		Esters, High Boilers	Yes
Depart-	280	2,800	Liquid		Phenol, Cresol COD, TCP - <i>Tetra cresol</i>	Yes
ment	3,500	34,000	Solid		Phenetidine residue	Yes
247	12,500	120,000	Solid		Maleic Anhydride	Yes
275	6,000	60,000	Liquid		Methanol, Oil	No
270	25,000	200,000	Semi-Solid		Chlorinated Benzene	Yes
221	13,700	130,000	Solid		NDPA Residue	Yes
255	3,000	28,500	Solid		PCP, Santophen I	Yes
239						

254,585 1,851,150

Pure Chlor. Phenol

Nitro Diphenyl Amine

NOTE:

Volume
calcula-
tions
based
on
10#/gal.

A - - 3

000198

TABLE 5
SOLID WASTE CHARACTERIZATION
DILUTE LIQUID WASTE (PHENOL)

MCO 0616728

Dept	Volume		Combustibles lbs/mo.	Viscosity "Ambient"	pH	Composition	Toxic
	gal/mo.	lbs/mo					
258	120,000	1,000,000	125,000	Liquid		H ₂ O, Phenol, PSA	Yes
236- 237	260,000	2,600,000	35,000	Liquid	Acid	Spent Acid	Yes
	95,000	790,000	2,400	Liquid	Base	Scrubber Liquor	Yes
	65,000	540,000	65,000	Liquid	Base	Residue, H ₂ O	Yes
	5,400	45,000		Liquid		Water, DCP	Yes
223	2,400	20,000	1,000	Liquid		Process Water	
	36,000	300,000	7,500	Liquid	10-12	Santosite	Yes
	9,000	75,000	1,500	Liquid		Waste Liquor	
Rip Track	18,000	150,000	3,000	Liquid		Phenol Wash Water	Yes

610,800 5,520,000 240,400

$$\begin{array}{r} 5050 \\ 750,000 \\ \hline 3\% \end{array}$$

$$\begin{array}{r} 176 \\ 50,000 \\ \hline 1000.00 \end{array}$$

$$\frac{3000}{150,000} = 2\%$$

2.00

000199
A - - 4

EXHIBIT 14

Interviewed

Mr. Spangler

No records were kept on material going to landfill. Cots were evenly distributed across plant with department age as basis.

Due to landfill material was dumped on the W. 6. Kummach Plant site. 5160/REL are built on this site. Parking lot is over a dumped area. P₄, Plant, OCEB were dumped there. Quarry and Research used contract haulers, we used our own choppers and trucks.

B. McCoy

Sy trailers turned in landfill. Never

received material from the companies. Never gave material to an unknown hauler.

MCO 0616739

Hazardous Waste

Mr. Spandell

L. Reeves Retired in Village

Jim Smith - day operator of landfill
(ACL 4000) 2

No records of what went into the landfill

- Penning

Chuck Duebney was the first 4-6023
engineer who worked1. P4 buried below existing
sanitary landfill2. ① ONCB went to landfill from
Quemmy Rubber wastes
from North Area② Research buried these unidentified
wastes③ Anticipated site will last 15
years④ Quemmy & Rege had contract
we used our own haulers⑤ Sites in plant 3-160/ACL
used to be dumps phenol

⑥ Lot F hand drums

⑦ Next creek besides Sought
Building dump of liquid
mustard

B. Mostly

Sulfur Puffin Tachycineta
Never from other companies

Never gave material to
a unknown source

Faculty Clayton Chemical

1970 weighing samples

No duplicate done of Hush-

— Joe Fildes

"No lead"

'Quartz also in movement
maybe before 1950'

Memo to file

attached is xerox of information sent to government
on waste streams. Much of the information was obtained
from my files.

MCO 0616743

EXHIBIT 15

6/15/79

CONVERSATIONS ON WASTE DISPOSAL SITE SURVEY

Jack T. Vining

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Ray Walter

1. STATED HAULING WASTES FROM JFQ full time in 1958.
2. From late 40's to 1958 helped his Gravofater, Osum F. Walter haul from plant

[REDACTED]

[REDACTED]

4. 1950-1957 hauled to a site near Sargent City Hall, EAST AND SOUTH OF WGR PLANT

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

MCO 6500185

MCO 6580186

Jack Bartzell

1. Said we used

in early 1950s.

2. Handed

1950s

3. Used WGC landfill exclusively

Harold Payne

1. Remembered JFD having waste in early 1950s

Then switching

to WGC landfill west of WGC plant.

2. Said we helped haul waste on phthalic converters

to WGC landfill.

EXHIBIT 16

Exhibit 3.4

Information Requests No. 29-32

CONFIDENTIAL BUSINESS
INFORMATION

Pursuant to 40 CFR Part 2, Subpart B, Monsanto Company hereby asserts a business confidentiality claim covering this Exhibit and all documents attached thereto.

From the desk of
EARL N. BRASFIELD

Bill Papageorge



MCO 6323702

1920's - LIQUID WASTE FLOWED TO DEAD CREEK.

- SOLID WASTE BURIED ON SITE AND SOUTH OF PLANT IN AREA E. OF CERRO & NEAR VILLAGE HALL.

'31-33 - VILLAGE SEWER SYSTEM CONSTRUCTED BY WPA.

OVERFLOW FROM LUGK WENT TO DEAD CREEK FOR EXCESSIVE RAIN & FLOOD WATER.

'35 - DEAD CREEK DREDGED TO FLOW NORTH FROM QUEENY AVE.

'38 - FILLED IN SAUGET VILLAGE HALL AREA E OF CERRO.

MCO 0323703

'38 - ARCELOR PRODUCTION STARTED

'38-51- LANDFILL PRIMARILY DONE IN LUGK SITE PROPER INCLUDING CURRENT EDWIN COPPER SITE AND LOT F WEST OF HWY 3.

4-51 - DUGGED CULVERT UNDER QUINCY
-- AVE. TO DRAIN STORM - STOPPED
ALL FLOW TOTALLY IN SOUTH
DIRECTION.

'51-78 - LANDFILL AT RIVER USED FOR TOXIC
MATERIAL FROM WGK, JFG, & Gen.
OFFICES RES.

ALSO NITRO, PORT PLASTICS, & ILL. EPA.

'68 - CONCRETE PLUG POURED IN QUINCY
AVE. CULVERT TO PERMANENTLY
SEAL HOLE. NO MAJOR FLOW -
MADE CHANGE TO STOP EVEN RAIN
WATER.

'78 - WGK LANDFILL CLOSED -
& COVER COMPLETED IN 1980.

MCU 0323704

60-72 - WAGGONER TRUCKING WAS MAJOR
TRUCKER FOR WGK PLASTIC PRODUCTS
INCLUDING 200 TONNAGES OF SOME
POLY.

Oct. 20, 1980

29

W. G. KRUMMRICH WASTE DISPOSAL (with map)HISTORY OF PLANT

Monsanto Company purchased the original site of the W. G. Krummrich Plant in Sauget, Ill., in 1917. It is named in honor of a former plant manager. Fewer than 100 employees worked at the 30-acre plant site when it was acquired from the Commercial Acid company. Today the plant stretches over 328 acres, employing more than 1,400 persons with an annual payroll of \$32 million. Of the total employees, 75 percent live in Illinois. The plant manufactures a variety of intermediate chemicals which are important to many industries.

BACKGROUND ON WATER RUNOFF

Back in the early 1900s, Dead Creek started somewhere north, flowed through the industrialized Granite City district, and emptied into the Mississippi River, about five miles south of the area now called Sauget. Dead Creek carried rain water runoff from north of East St. Louis along with domestic and industrial waste water. When Monsanto bought the chemical acid plant in 1917, the creek entered the property on the north side and flowed southward through the plant site. We believe it is safe to assume that industrial waste entered the creek bed throughout its length in those early times.

MCO 0009505

The village of Sauget was incorporated in 1926. In 1933, the Sauget village sewer system was completed. After 1933, all effluent from the plant flowed into the village sewer system. However, during infrequent floods and unusually heavy rainfall, the storm water runoff washed throughout the area, and could have flowed toward the creek.

In 1935, the creek was dredged between Monsanto's plant and Queeny Avenue, and sometime later the portion in the plant was filled in. This occurred shortly after Queeny Avenue was relocated two blocks southward to its present site. A culvert running under Queeny Avenue to the creek was blocked by the Village of Sauget, stopping the runoff flow southward. In 1968, a concrete plug was poured in the culvert to permanently seal the outlet, stopping any runoff flow completely to the south.

PLANT WASTE DISPOSAL

Currently and in recent years, industrial wastes from the Krummrich plant are either handled by contract landfill or contract incineration, or in-plant incineration. Solid non-liquid wastes are sent to an Illinois EPA-approved landfill. Concentrated liquid wastes are shipped to incinerator sites operated by Rollins Environmental Services.

Although no records exist, it is known that in the early times (1917 to the 1930s), the plant disposed of its wastes in a commercial landfill operated by Leo Sauget in the area around the Sauget Village Hall near Queeny and Nickel Avenues. This landfill was filled and covered by the operator.

MCO 0009506

From 1938-1951, wastes were disposed of primarily on plant-owned property, either at the site of the present Cooper plant or a landfill west of Highway 3.

From 1951-1978, we operated our own landfill on a 20-acre company-owned tract east of our existing river terminal. This site was covered and clay-capped in 1979.

SAMPLING PROGRAM

Monsanto, as a responsible industrial citizen of the community, is concerned about Dead Creek. We offered to cooperate with the Illinois EPA and share samples to help develop facts concerning safety of the area. We are hopeful that our assistance will help resolve the situation.

MCD 0009507

This initial notification information is required by Section 103(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and must be mailed by June 9, 1981.

Please type or print in ink. If you need additional space, use separate sheets of paper. Indicate the letter of the item which applies.

A Person Required to Notify:

Enter the name and address of the person or organization required to notify.

Name Monsanto Co. - J. F. Queney Plant
Street 1700 South Second Street
City St. Louis State Missouri Zip Code 63177

B Site Location:

Enter the common name (if known) and actual location of the site.

Name of Site Sauget (Monsanto), Illinois Landfill
Street Falling Springs Road
City Sauget County St. Clair State Illinois Zip Code 62201

C Person to Contact:

Enter the name, title (if applicable), and business telephone number of the person to contact regarding information submitted on this form.

Name (Last, First and Title) McCombs, Max W. - Env. Prot. Supv.
Phone (314) 622-1400

D Dates of Waste Handling:

Enter the years that you estimate waste treatment, storage, or disposal began and ended at the site.

From (Year) Unknown To (Year) 1957

E Waste Type: Choose the option you prefer to complete

Option 1: Select general waste types and source categories. If you do not know the general waste types or sources, you are encouraged to describe the site in Item I—Description of Site.

General Type of Waste:
Place an X in the appropriate boxes. The categories listed overlap. Check each applicable category.

- 1. ☒ Organics
- 2. ☒ Inorganics
- 3. ☒ Solvents
- 4. ☐ Pesticides
- 5. ☐ Heavy metals
- 6. ☐ Acids
- 7. ☐ Bases
- 8. ☐ PCBs
- 9. ☐ Mixed Municipal Waste
- 10. ☐ Unknown
- 11. ☐ Other (Specify) _____

Source of Waste:
Place an X in the appropriate boxes.

- 1. ☐ Mining
- 2. ☐ Construction
- 3. ☐ Textiles
- 4. ☐ Fertilizer
- 5. ☐ Paper/Printing
- 6. ☐ Leather Tanning
- 7. ☐ Iron/Steel Foundry
- 8. ☒ Chemical, General
- 9. ☐ Plating/Polishing
- 10. ☐ Military/Ammunition
- 11. ☐ Electrical Conductors
- 12. ☐ Transformers
- 13. ☐ Utility Companies
- 14. ☐ Sanitary/Refuse
- 15. ☐ Photofinish
- 16. ☐ Lab/Hospital
- 17. ☐ Unknown
- 18. ☐ Other (Specify) _____

Option 2: This option is available to persons familiar with Resource Conservation and Recovery Act (RCRA) Section regulations (40 CFR Part 261).

Specific Type of Waste:
EPA has assigned a four-digit number to each hazardous listed in the regulations under Section 3001 of RCRA. Enter appropriate four-digit number in the boxes provided. A list of hazardous wastes and codes can be obtained by contacting the EPA Region serving the State in which the located.

Waste Quantity

Place an X in the appropriate boxes to indicate the facility types found at the site.

In the "Total facility waste amount" space, give the estimated combined quantity (volume) of hazardous wastes at the site using cubic feet or gallons.

In the "Total facility area" space, give the estimated area size which the facilities occupy using square feet or acres.

Facility Type

1. ☐ Piles
2. ☐ Land Treatment
3. ☒ Landfill
4. ☐ Tanks
5. ☐ Impoundment
6. ☐ Underground Injection
7. ☐ Drums, Above Ground
8. ☒ Drums, Below Ground
9. ☐ Other (Specify) _____

Total Facility Waste

cubic feet 356,000

gallons _____

Total Facility Area

square feet _____

acres Unknown

G Known, Suspected or Likely Releases to the Environment:

Place an X in the appropriate boxes to indicate any known, suspected, or likely releases of wastes to the environment.

☐ Known ☐ Suspected ☐ Likely ☐ No
☒ Do not know

Note: Items H and I are optional. Completing these items will assist EPA and State and local governments in locating and assessing hazardous waste sites. Although completing the items is not required, you are encouraged to do so.

H Sketch Map of Site Location: (Optional)

Sketch a map showing streets, highways, routes or other prominent landmarks near the site. Place an X on the map to indicate the site location. Draw an arrow showing the direction north. You may substitute a publishing map showing the site location.

I Description of Site: (Optional)

Describe the history and present conditions of the site. Give directions to the site and describe any nearby wells, springs, lakes, or housing. Include such information as how waste was disposed and where the waste came from. Provide any other information or comments which may help describe the site conditions.

MC0 6580184

J Signature and Title:

The person or authorized representative (such as plant managers, superintendents, trustees or attorneys) of persons required to notify must sign the form and provide a mailing address (if different than address in item A). For other persons providing notification, the signature is optional. Check the boxes which best describe the relationship to the site of the person required to notify, if you are not required to notify.

Name George F. Knollmeyer, Plant Manager

Street _____

City _____

State _____

Zip Code _____

Signature _____

Date 5/18/81

- ☐ Owner, Present
☐ Owner, Past
☒ Transporter
☐ Operator, Present
☐ Operator, Past
☐ Other

22A/CERCLA/CERCLA COPPER, EIL, PCB ATTORNEY WORK PRODUCT / ATTORNEY CLIENT PRIVILEGE